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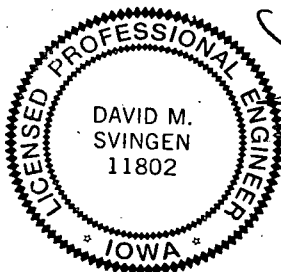
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ANNUAL MONITORING REPORT 2007  
GROUNDWATER QUALITY AND  
MONITORING WELL PERFORMANCE

PLYMOUTH COUNTY SANITARY LANDFILL  
PLYMOUTH COUNTY, IOWA  
PERMIT NO. 75-SDP-1-74P

Terracon Project No. 40905033  
November 30, 2007

I hereby certify the portion of this engineering document described below was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.



*David M. Svingen*  
David M. Svingen

Certificate No. 11802

Pages or sheets covered by this seal: Annual Monitoring Report 2007; pages 1 - 20; Appendix A, Figures 1-6; Appendix B; Appendix C, Tables 1-3.

Date Issued: 11/30/2007

License Renewal Date: 12/31/2007

*Prepared for:*

PLYMOUTH COUNTY SOLID WASTE AGENCY  
Plymouth County, Iowa

*Prepared by:*

TERRACON CONSULTANTS, INC.  
Omaha, Nebraska

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**Terracon**



November 30, 2007

# Terracon

Consulting Engineers & Scientists

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Re: Annual Monitoring Report 2007  
Groundwater Quality and Monitoring Well Performance  
Plymouth County Sanitary Landfill  
Plymouth County, Iowa  
Permit No. 75-SDP-1-74P  
Terracon Project No. 40905033

Dear Mr. Kunkel:

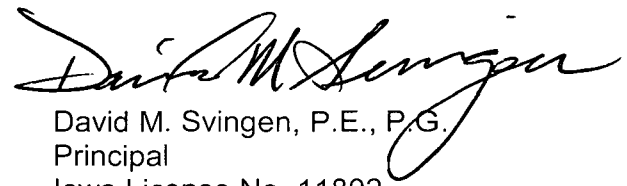
Enclosed is a report for the annual monitoring of groundwater quality and monitoring well performance for the Plymouth County Landfill. This report serves to meet Iowa Department of Natural Resources (IDNR) annual monitoring reporting requirements set forth in IDNR's Regulations for Solid Waste Disposal, Chapter 113. This report does not, however, contain site inspection/special waste authorization information. We understand that site inspection/special waste authorization information is to be reported by Mr. Scott Langel, P.E., the registered design engineer as specified in the landfill's permit (No. 75-SDP-1-74P).

Thank you for the opportunity to be of continued service to you on this project. If there are any questions concerning this report, please contact us.

Sincerely,  
**TERRACON CONSULTANTS, INC.**



Rod Baumann, P.G.  
Project Geologist



David M. Svingen, P.E., P.G.  
Principal  
Iowa License No. 11802

JLD/RMB/DMS:rmb/amv

Enclosure

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**ANNUAL MONITORING REPORT 2007  
GROUNDWATER QUALITY AND  
MONITORING WELL PERFORMANCE**

**PLYMOUTH COUNTY SANITARY LANDFILL  
PLYMOUTH COUNTY, IOWA  
PERMIT NO. 75-SDP-1-74P**

**Terracon Project No. 40905033  
November 30, 2007**

## **1.0 INTRODUCTION**

The subject site is an existing landfill operating under Iowa Department of Natural Resources (IDNR) permit number 75-SDP-1-74P, in Plymouth County of northwestern Iowa. The Plymouth County Landfill is located within the NE  $\frac{1}{4}$  of Section 34, in Township 93 North, Range 45 West, in Plymouth County, Iowa and its location is depicted in Figures 1 and 2 (Appendix A).

Landfill personnel have performed water quality sampling and analysis for the 2007 calendar year at the Plymouth County Landfill. Monitoring consisted of sampling and analyzing groundwater from 11 water table monitoring wells (three up-gradient wells and eight down-gradient wells). These wells are designated as MW-7 through MW-17 and are depicted in figure 3 (Appendix A). It should be noted that another well, MW-18, was briefly used during 2005 and 2006 for monitoring groundwater. However, permission was granted by the IDNR on April 24, 2007 to no longer use MW-18 as a monitoring point. Consequently, no laboratory analyses were conducted on MW-18 groundwater during 2007. Nevertheless, the limited data that exists for MW-18 has been incorporated into this report.

Past sampling and analyses have shown well MW-17 to be appropriate for use as an up-gradient well for making statistical comparisons to the remaining wells at the landfill. At the current time, it appears that MW-17 continues to be a viable up-gradient well for statistical comparisons. Further discussion pertaining to this well's monitoring data is provided in Section 3.1.

Most of the wells at the landfill have been subjected to monitoring for routine annual and semi-annual parameters. Many wells have also been used to monitor for volatile organic compounds (VOCs) in response to a Groundwater Quality Assessment Plan (GWQAP) for assessing the extent of VOCs detected at several wells during previous monitoring. A summary of whether routine annual and semi-annual parameters and/or specified VOC parameters are required for testing at respective wells is provided below.

Well No.	Routine Semi-Annual and Annual Sampling	GWQAP Semi-Annual Sampling for Specified VOCs
MW-7	Required	Required
MW-8	Required	Required
MW-9	Required	Required
MW-10	Required	Not Required
MW-11	Required	Not Required
MW-12	Required	Required
MW-13	Required	Not Required
MW-14	Required	Required
MW-15	Not Required	Required
MW-16	Not Required	Required
MW-17	Required	Required
MW-18	Not Required*	Not Required*

Notes:

Wells MW-1 through MW-6 have been abandoned.

\*Permission to discontinue sampling at MW-18 was issued by IDNR in e-mail correspondence dated April 24, 2007.

Laboratory reports, chain-of-custody documentation, and field data forms have been previously submitted to the IDNR by landfill personnel for each semi-annual monitoring event. Copies of these documents are retained at the Plymouth County Landfill. During 2007, groundwater sampling was performed on April 23 and October 9.

## 2.0 STATISTICAL CONSIDERATIONS

Monitoring well MW-17 was considered as the up-gradient location in the water quality monitoring program. Statistical evaluation of temperature has not been included since temperature data, to a large degree, is dependent upon ambient conditions. Ambient conditions may cause temperature readings to deviate from actual groundwater conditions as a result of the method used to measure groundwater temperatures. Nevertheless, temperatures recorded during the sampling events do not indicate obvious indications of temperature fluctuations that may be the result of endothermic or exothermic chemical reactions.

Upper and lower control bounds were computed in general accordance with guidelines set forth in IAC 113.26(6). One-half of the laboratory method quantitative limit was used in statistical computations in instances where chemicals were reported at concentrations below the quantitative limit.

Laboratory analytical summary sheets for each sampling location have been provided in Appendix B. Graphs with upper and lower control limits showing concentrations versus time for sampling locations are also included in Appendix B. The parameters given statistical consideration include routine semi-annual and annual parameters and select VOC parameters at selected wells as listed below.

<u>Semi-annual Parameters</u>	<u>Annual Parameters</u>	<u>Select VOCs at GWQAP Wells</u>
Chloride	Phenols (Total)	Benzene
Chemical Oxygen Demand	Total Organic Halogens	1,2-Dichloroethane
Iron (dissolved)		1,1-Dichloroethene
Ammonia Nitrogen		1,1,1,-Trichloroethane
pH		Trichloroethene
Specific Conductance		

It should be noted that GWQAP wells that only require sampling for VOCs have been occasionally sampled (inadvertently) for semi-annual and annual parameters, which was not required by the IDNR. Conversely, wells that only require sampling for semi-annual and annual parameters have been occasionally sampled (inadvertently) for VOCs, which was not required by the IDNR. The additional data was included in the Appendix B tables, but may or may not be included in the Appendix B graphs.

### 3.0 GROUNDWATER IMPACT DISCUSSIONS

Discussion in this section is provided for chemical parameters that fall outside of the upper and lower control limits on a well-by-well basis. Chemical parameters which fall within established control limits are not discussed. Well discussions are presented with well MW-17 being discussed first, since well MW-17 is the up-gradient well used for statistical comparison to other wells. The remaining monitoring well data is discussed in reverse order. Data tables and graphs in Appendix B are ordered similarly to the order of wells discussed in the report narrative.

Upper and lower control limits for each of the monitoring wells (MW-7 through MW-18) were based on data obtained for up-gradient well MW-17 as required by IAC Chapter 113.26(6). In some cases, upper and lower control limits are equivalent due to non-detection of certain parameters since monitoring began. In this case, analyte concentrations plot on a single control bound line (no deviation from the mean of the data) instead of between upper and lower control bounds.

#### 3.1 MW-17 (Up-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Only one data point (July 1, 1998) plotted above the upper control limit for chloride. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Chemical Oxygen Demand (COD):** Two data points plotted above the upper control limit for chemical oxygen demand. There are also two data points that are marginally below the upper control limit. Compared to the other data points on the graph, it is not clear whether these four data points appear to be anomalous and not consistent with other monitoring data or whether the data suggests occasional elevated COD in groundwater at the well. Further monitoring is required to evaluate possible trends in COD.
- **1,2-Dichloroethane (DCA):** The four recent results for DCA are in excess of the upper control limit due to elevated laboratory quantitative limits, and have caused the formation of an upper and lower control limit. DCA has not been detected at MW-17.
- **1,1,1-Trichloroethane (TCA):** One data point (April 30, 2004) for detected TCA has resulted in the formation of an upper and lower control limit for this chemical. However, the TCA concentration does not exceed the MCL groundwater action level of 200 µg/L.
- **pH:** Only one data point (October 17, 2000) plotted below the lower control limit for pH. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Specific Conductance:** One data point (October 11, 2004) plotted above the upper control limit and one data point (April 26, 2005) plotted below the lower control limit for specific conductance. These two values appear to be anomalous compared to the rest of the data. The five most recent data points appear to indicate a trend toward slightly elevated specific conductance. Continued monitoring will allow for further assessment of potential impact.

### 3.2 MW-18 (Down-Gradient Well)

Well MW-18 is a relatively new well that was installed during 2005. Authorization to discontinue monitoring at MW-18 was issued by the IDNR on April 24, 2007. Groundwater was monitored for GWQAP volatile organic compounds for the first time during the October 2005 semi-annual monitoring event. Volatile organic concentrations analyzed for MW-18 were reported to be below laboratory detection limits for benzene, 1,2-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, and trichloroethylene.



Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **1,2-Dichloroethane (DCA):** The two recent results for DCA are in excess of the upper control limit due to elevated laboratory quantitative limits. DCA has not been detected at MW-18.
- **1,1-Dichloroethene (DCE):** One data point (October 11, 2005) for DCE falls below the upper and lower control bound, which is a single line, due to reduced laboratory quantitative limits for this date. DCE has not been detected at MW-18.
- **Specific Conductance:** The first specific conductance measurement (October 11, 2005) was above 1200  $\mu\text{S}/\text{cm}$  which is outside the control limits. Other specific conductance data was within the control limits. The October 11, 2005 data point appears to be anomalous.

### 3.3 MW-16 (Up-Gradient Well)

Well MW-16 is a GWQAP well installed for monitoring certain VOC compounds. Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **1,2-Dichloroethane (DCA):** The four recent results for DCA are in excess of the upper control limit due to elevated laboratory quantitative limits. DCA has not been detected at MW-16.
- **Trichloroethene (TCE):** Only one data point (April 30, 2004) plotted above the upper control limit for TCE. However, the detected TCE concentration is below the maximum contaminant level (MCL) drinking water standard of 5  $\mu\text{g}/\text{l}$  and also appears to be anomalous with respect to other TCE data.
- **Specific Conductance:** One data point (April 26, 2005) plotted below the lower control limit for specific conductance. The data point that plotted below the lower control limit appears to be anomalous with respect to the remaining data points. Data since 2004 appears to suggest increased specific conductance levels relative to earlier years. Continued monitoring will allow for further assessment of potential impact.

### 3.4 MW-15 (Down-Gradient Well)

Well MW-15 is a GWQAP well installed for monitoring certain VOC compounds. Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **1,2-Dichloroethane (DCA):** The four recent results for DCA are in excess of the upper control limit due to elevated laboratory quantitative limits. DCA has not been detected at MW-15.
- **Trichloroethene (TCE):** Data has consistently plotted above the upper control limit for TCE since September of 1999 with the exception of three data point (April 30, 2004, April 23, 2007, and October 9, 2007). However, the detected TCE concentrations are below the maximum contaminant level (MCL) drinking water standard of 5 µg/l.
- **Total Organic Halogens (TOH):** The two test results for this analyte indicate impact to groundwater which is consistent with the detection of TCE discussed above. Note that TOH is a routine annual parameter not required to be tested in groundwater collected from MW-15.
- **pH:** One pH value (for the October 17, 2000 date) plots marginally below the lower control limit. This phenomenon does not appear to be significant.
- **Specific Conductance:** Data for this analyte plotted rather consistently above the upper control bound established by up-gradient well MW-17. Based on indications of the TCE present in the groundwater, as stated above, the elevated specific conductance appears to be indicative of landfill leachate impacting groundwater at MW-15.

### 3.5 MW-14 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Each of the data points plotted above the upper control limit for chloride. Based on other indications of groundwater impact at well MW-14 (i.e. VOCs), the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** The July 12, 1996 data point plotted above the upper control limit for chemical oxygen demand. Compared to the other data

points on the graph, this data point appears to be anomalous and not consistent with other monitoring data. More recent data since 2002 may be indicative of groundwater impact, and includes three data points plotting above the upper control limit. Continued monitoring will allow for further assessment of potential impact.

- **Ammonia Nitrogen:** The April 30, 2004 data point plotted above the upper control limit for ammonia nitrogen. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Dissolved Iron:** The March 25, 2001 data point plotted above the upper control limit for dissolved iron. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Benzene:** Two early data points plot above the upper control bound limit because the laboratory detection levels were elevated for these sample dates. A third data point (April 30, 2004) plots above the upper control bound but appears to be anomalous with respect to other analytical data. Also, the anomalous data point concentration is below the maximum contaminant level (MCL) of 5 µg/L.
- **1,2-Dichloroethane (DCA):** Several data points plot above the upper control limit for DCA. Some of the occurrences in excess of the upper control limit are due to elevated laboratory quantitative limits. Other occurrences were due to detections of DCA marginally above detection limits which are below the maximum contaminant level (MCL) of 5 µg/L.
- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-14. Two early data points plot below the lower control bound limit because the laboratory detection levels were lower for these sample dates relative to subsequent data analyses.
- **1,1,1-Trichloroethane (TCA):** Five data points plot above the upper control limit for TCA. However, TCA concentrations do not exceed the MCL groundwater action level of 200 µg/L.
- **Trichloroethene (TCE):** Most of the data points plot above the upper control limit for TCE. However, none of the data points exhibited a concentration exceeding the MCL groundwater action level of 5 µg/L.
- **Total Organic Halogens (TOH):** Most of the data points plot above the upper control limit for TOH. These results are consistent with VOC detections as stated above.

- **Specific Conductance:** Most of the data points plotted above the upper control limit for specific conductance. Based on other indications of groundwater impact at well MW-14 (i.e. VOCs), the elevated specific conductance concentrations appear to be indicative of impact from the landfill.

### 3.6 MW-13 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Each of the data points plotted above the upper control limit for chloride. Based on other indications of groundwater impact at well MW-13 (TOH, dissolved iron, and arsenic detected during the first year of monitoring not covered in this report), the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** Several data points plot above the upper control limit for chemical oxygen demand. Based on other indications of groundwater impact at well MW-13 (TOH, dissolved iron, and arsenic detected during the first year of monitoring not covered in this report), the data may be indicative of impact from the landfill.
- **Ammonia Nitrogen:** The April 12, 2000 data point plotted above the upper control limit for ammonia nitrogen. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Iron:** Many of the data points plotted above the upper control limit for iron. Based on other indications of groundwater impact at well MW-13 (TOH, chloride, and arsenic detected during the first year of monitoring not covered in this report), the elevated iron concentrations may be indicative of impact from the landfill.
- **Benzene:** Benzene was not detected at MW-13. Two early data points plot above the upper control bound limit because the laboratory detection levels were elevated for these sample dates. This analyte has not been tested for at this well since 2003 because well MW-13 is not a GWQAP well that requires VOC monitoring.
- **1,2-Dichloroethane (DCA):** DCA was not detected at MW-13. One data point plotted above the upper control limit for DCA. The exceedance is due to elevated laboratory detection limits. This analyte has not been tested for at this well since 2003 because well MW-13 is not a GWQAP well that requires VOC monitoring.

- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-13. Two early data points plot below the lower control bound limit because the laboratory detection levels were lower for these sample dates relative to subsequent data analyses. This analyte has not been tested for at this well since 2003 because well MW-13 is not a GWQAP well that requires VOC monitoring.
- **Total Organic Halogens (TOH):** TOH was detected during three past monitoring events. Specific VOCs have not been detected in groundwater at MW-13. Continued monitoring will allow for further assessment of potential TOH impact at well MW-13.
- **pH:** One historic data point falls marginally below the lower control bound limit. This one-time deviation from within the control bound limits is not considered to be of significance.
- **Specific Conductance:** Two of the data points plotted above the upper control limit for specific conductance. These deviations may not be of significance. Continued monitoring will allow for further assessment of potential impact at well MW-13.

### 3.7 MW-12 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Each of the data points plotted above the upper control limit for chloride. Based on other indications of groundwater impact at well MW-12 (i.e. VOCs and total organic halogens), the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** Several data points plotted above the upper control limit for specific conductance. COD data appears to be sporadic, inconsistent, and alternates between non-detected values and detected values that may or may not exceed the upper control limit.
- **Ammonia Nitrogen:** The October 19, 1998 data point plotted above the upper control limit. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Iron:** Data points for recent semi-annual monitoring events plotted above the upper control limit. Based on other indications of groundwater impact at well MW-12 (i.e.

various VOCs and chloride), the elevated iron concentrations may be indicative of impact from the landfill. Continued monitoring should provide an indication of the significance of the recent dissolved iron detections.

- **Benzene:** Most of the data points plot above the upper control limit for benzene with the exception of one (April 30, 2004). The exceedances were due to detections of benzene at concentrations which are below the maximum contaminant level (MCL) of 5 µg/L.
- **1,2-Dichloroethane (DCA):** The April 30, 2004 data point plotted above the upper control limit for DCA. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data. The past four points from 2006 and 2007 are above the upper control limit due to an increase in the laboratory quantitative limit for 1,2-Dichloroethane.
- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-12. One early data point plots below the lower control bound limit because the laboratory detection levels were lower for this sample date relative to subsequent data analyses.
- **1,1,1-Trichloroethane (TCA):** Three data points plot above the upper control limit for TCA. However, TCA concentrations do not exceed the maximum contaminant level (MCL) groundwater action level of 200 µg/L.
- **Trichloroethene (TCE):** Each data point plots above the upper control limit for TCE. Some data points exhibited a concentration exceeding the maximum contaminant level (MCL) of 5 µg/L, but only marginally.
- **Total Organic Halogens (TOH):** Each of the data points plot above the upper control limit for TOH. These results are consistent with VOC detections as stated above.
- **pH:** Most measured pH values are between control limits with the exception of a few pH values which plot at or marginally below the lower control limit. One data point that plotted below the lower control limit exhibited a pH value of 5.0. The 5.0 pH value appears to be anomalously low and not consistent with other measured pH values.
- **Specific Conductance:** Most of the data points plotted above the upper control limit for specific conductance. Based on other indications of groundwater impact at

well MW-12 (i.e. VOCs and total organic halogens), the elevated specific conductance concentrations appear to be indicative of impact from the landfill.

### 3.8 MW-11 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** All of the data points plotted above the upper control limit for chloride. The elevated chloride concentrations may be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** Three data points plot above the upper control limit for chemical oxygen demand. Compared to the other data points on the graph, these data points may be anomalous, or they may indicate a limited amount of COD activity consistent with other indications of impact from the landfill. Continued monitoring will allow for further assessment of COD significance.
- **Ammonia Nitrogen:** The October 11, 2004 data point plotted above the upper control limit. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Iron:** The July 12, 1996 data point plotted above the upper control limit. Compared to the other data points on the graph, the suspect data point appears to be anomalous and not consistent with other monitoring data. Continued monitoring subsequent to the July 12, 1996 date indicates that iron concentrations at MW-11 have exceeded the upper control limit on two other occasions (April 25, 2006 and October 9, 2007). Continued monitoring will allow for further assessment of dissolve iron significance.
- **Benzene:** Benzene was not detected at MW-11. Two early data points plotted above the upper control bound limit because the laboratory detection levels were elevated for these sample dates. This analyte has not been tested for at this well since 2003 because well MW-11 is not a GWQAP well that requires VOC monitoring.
- **1,2-Dichloroethane (DCA):** DCA was not detected at MW-11. One early data point plotted above the upper control bound limit because the laboratory detection level was elevated for that sample date. This analyte has not been tested for at this well since 2003 because well MW-11 is not a GWQAP well that requires VOC monitoring.

- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-11. Two early data points plotted below the lower control bound limit because the laboratory detection levels were lower for these sample dates relative to subsequent data analyses. This analyte has not been tested for at this well since 2003 because well MW-11 is not a GWQAP well that requires VOC monitoring.
- **Total Organic Halogens (TOH):** Two early data points plot above the upper control limit for TOH. Continued monitoring subsequent to these dates indicates that TOH concentrations at MW-11 have not been detected.
- **Specific Conductance:** Several data points plotted above the upper control limit for specific conductance. The data appears to indicate an upward trend in specific conductance values. The elevated specific conductance concentrations may be indicative of impact from the landfill.

### 3.9 MW-10 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Each of the data points plotted above the upper control limit for chloride. Based on total organic halogen detections as discussed below, the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** Two values which plot above the upper control limit for chemical oxygen demand appear to be anomalous. Three recent data points from 2006 and 2007 indicate COD occurrence with two of the three COD values plotting slightly above the upper control limit.
- **Ammonia Nitrogen:** The August 9, 1996 data point plotted above the upper control limit. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data. Continued monitoring subsequent to August 9, 1996 indicates that ammonia nitrogen concentrations at MW-10 have not been detected.
- **Iron:** The April 17, 1997 data point plotted above the upper control limit. Other data points on the graph did not exhibit detectable iron concentrations. The one-time detection of iron in well MW-10 appears to be anomalous.



- **Benzene:** Benzene was not detected at MW-10. Two early data points plotted above the upper control bound limit because the laboratory detection levels were elevated for these sample dates. This analyte has not been tested for at this well since 2003 because well MW-10 is not a GWQAP well that requires VOC monitoring.
- **1,2-Dichloroethane (DCA):** DCA was not detected at MW-10. One early data point plotted above the upper control limit because the laboratory detection level was elevated for that sample date. This analyte has not been tested for at this well since 2003 because well MW-10 is not a GWQAP well that requires VOC monitoring.
- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-10. Two early data points plotted below the lower control bound limit because the laboratory detection levels were lower for these sample dates relative to subsequent data analyses. This analyte has not been tested for at this well since 2003 because well MW-10 is not a GWQAP well that requires VOC monitoring.
- **Trichloroethene (TCE):** One data point plotted above the upper control limit for TCE. However, the elevated TCA concentration does not exceed the maximum contaminant level (MCL) of 5 µg/L and also appears to be anomalous with respect to the other non-detectable TCE concentrations. This analyte has not been tested for at this well since 2003 because well MW-10 is not a GWQAP well that requires VOC monitoring.
- **Phenols:** Two data points (October 14, 1997 and April 26, 2006) plotted above the upper control bound established by up-gradient well MW-17 for total phenols. These detected phenol concentrations appear to be anomalous.
- **Total Organic Halogens (TOH):** Several of the data points plot above the upper control limit for TOH. These results may be indicative of landfill impact to groundwater.
- **Specific Conductance:** Most of the data points plotted near, but below, the upper control limit. The five most recent data points plotted above the upper control limit. Further monitoring will be necessary to evaluate the significance of the most recent data points.

### 3.10 MW-9 (Down-Gradient Well)

Well MW-9 had not produced a sufficient amount of water for sampling from 2000 to 2004. The discussion below is based on data generated through monitoring which occurred prior to 2000 and since October of 2004. Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Each of the data points plotted above the upper control limit for chloride. Based on detections of VOCs and total organic halogens, as stated below, the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** COD detections may indicate a limited amount of COD activity consistent with other indications of impact from the landfill. One data point plotted marginally above the upper control limit. Continued monitoring will allow for further assessment of COD significance.
- **Ammonia Nitrogen:** The October 11, 2004 data point plotted above the upper control limit. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.
- **Benzene:** Benzene was not detected at MW-9. One early data point plotted above the upper control bound limit because the laboratory detection levels were elevated for that sample date.
- **1,2-Dichloroethane (DCA):** Several data points plot above the upper control limit for DCA. Some of the exceedances were due to detections of DCA. Some were due to elevated laboratory quantitation limits. The detections are, however, below the maximum contaminant level (MCL) of 5 µg/L.
- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-9. One early data point plotted below the lower control bound limit because the laboratory detection level was lower for this sample date relative to subsequent data analyses.
- **Phenols:** The earliest of six phenol data points plotted above the upper control limit for phenol. The phenol concentration above the upper control limit appears to be anomalous. However, further monitoring is necessary to evaluate whether future detections indicate phenol impact to groundwater at well MW-9.
- **Total Organic Halogen (TOH):** Four of six data points plot above the upper control limit for TOH. These results are consistent with DCA detections as stated above.

- **Specific Conductance:** Most of the data points plot above the upper control limit for specific. Based on other indications of groundwater impact at well MW-9 (i.e. select VOCs and total organic halogens), the elevated specific conductance concentrations appear to be indicative of impact from the landfill.

### 3.11 MW-8 (Down-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** All of the data points plotted above the upper control limit for chloride. Based on detections of VOCs and TOH at this well, as discussed below, the elevated chloride concentrations appear to be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** Three data points plotted above the upper control limit. These data points and several other COD detections in well MW-8 may indicate impact to groundwater from the landfill.
- **Ammonia Nitrogen:** The April 30, 2004 and April 23, 2007 data points plotted above the upper control limit. Compared to the other data points on the graph, these data points appears to be anomalous and not consistent with other monitoring data.
- **Iron:** Four data points plotted marginally above the upper control limit. Other data points on the graph did not exhibit detectable iron concentrations. Recent iron monitoring data does not indicate impact from the landfill.
- **Benzene:** Most of the data points plot above the upper control limit for benzene. The exceedances were due to detections of benzene which are below the maximum contaminant level (MCL) of 5 µg/L.
- **1,2-Dichloroethane (DCA):** Most of the data points plot above the upper control limit for DCA. The exceedances were due to detections of DCA which are below the maximum contaminant level (MCL) of 5 µg/L.
- **1,1-Dichloroethene (DCE):** The October 11, 1996 data point plotted above the upper control bound limit. Compared to the other data points on the graph, this data point appears to be anomalous and not consistent with other monitoring data.

Continued monitoring subsequent to the October 11, 1996 sampling date indicates that DCE concentrations at MW-8 have not been detected.

- **Trichloroethene (TCE):** All data points plotted above the upper control limit for TCE. Most exceedances were due to detections of TCE which are above the maximum contaminant level (MCL) of 5.0 µg/L but recent detections appear to be below the MCL for TCE. A trend is apparent indicating decreasing concentrations over time.
- **Phenols:** The earliest phenol data point plotted above the upper control limit for phenol. It appears that the detected phenol concentration may be anomalous.
- **Total Organic Halogen (TOH):** Each of the data points plot above the upper control limit for TOH. These results are consistent with DCA and TCE detections as stated above.
- **pH:** Two historic data points fall marginally below the lower control bound limit. These deviations are not considered to be of significance.
- **Specific Conductance:** Most of the data points plotted above the upper control limit for specific conductance. Based on other indications of groundwater impact at well MW-8 (i.e. VOCs and total organic halogens), the elevated specific conductance concentrations may be indicative of impact from the landfill.

### 3.12 MW-7 (Up-Gradient Well)

Analytes whose concentrations fall outside of the control limits established from up-gradient well MW-17 are as follows:

- **Chloride:** Many chloride data points plot marginally above the upper control limit for chloride. These marginal exceedences may be indicative of impact from the landfill.
- **Chemical Oxygen Demand (COD):** The July 12, 1996 data point plotted above the upper control limit and appears to be anomalous and not consistent with other monitoring data. More recent data indicates some chemical oxygen demand detections, two of which are plotted marginally above the upper control limit. COD detections since 2002 may indicate impact from landfill leachate.
- **Ammonia Nitrogen:** Two data points plot above the upper control bound but are not consistent with other data which indicates ammonia has not been detected.

Recent data indicates that ammonia concentrations which plotted above the upper control bound appear to be anomalous.

- **Iron:** Three data points plotted marginally above the upper control limit for iron. Other data points on the graph did not exhibit detectable iron concentrations. Recent iron monitoring data does not indicate impact from the landfill.
- **Benzene:** Two early data points plotted above the upper control limit for benzene because the laboratory detection levels were elevated for these sample dates. Many later data points also plotted above the upper control limit due to detections of benzene which are at or below the maximum contaminant level of 5.0 µg/L.
- **1,2-Dichloroethane (DCA):** Two early data points plotted above the upper control limit. The elevated DCA values appear to be anomalous and not consistent with other monitoring data. Continued monitoring subsequent to the elevated data points indicates that DCA concentrations at MW-7 have not been detected.
- **1,1-Dichloroethene (DCE):** DCE was not detected at MW-7. However, two early data points plotted below the lower control bound limit because the laboratory detection level was lower for these sample dates relative to subsequent data analyses.
- **Trichloroethene (TCE):** All of the data yields points plot above the upper control limit for TCE. The exceedances were due to detections of TCE which are above the negligible risk level of 3.0 µg/L and above the maximum contaminant level (MCL) of 5.0 µg/L.
- **Total Organic Halogen (TOH):** Most of the data points plotted above the upper control limit for TOH. These results are consistent with TCE detections as stated above.
- **pH:** Two data points plot below the lower control limit, but do not significantly deviate from the control bounds.
- **Specific Conductance:** Most of the data points plot above the upper control limit for specific conductance. Based on other indications of groundwater impact at well MW-7 (i.e. VOCs and total organic halogens), the elevated specific conductance concentrations appear to be indicative of impact from the landfill.

#### **4.0 MONITORING WELL PERFORMANCE**

The current site monitoring instruments were evaluated in general accordance with the approved Hydrologic Monitoring System Plan, dated October 23, 1998. The purpose of this evaluation was to assess whether the integrity of groundwater monitoring instruments is sufficient to adequately monitor groundwater at the landfill as described in the approved HMSP.

##### **4.1 Well Location Evaluation [110.9(2)a]**

For the 2007 calendar year, groundwater elevation measurement events for 11 water table monitoring wells (MW-7 through MW-17) were conducted monthly by landfill personnel. Groundwater elevation measurements were also conducted for MW-18 for January, February, and March of 2007. In April 2007, permission was granted by the IDNR to no longer use MW-18 as a monitoring point. Therefore, groundwater elevation measurements were not conducted for the remainder of the 2007 calendar year. The monitoring wells are depicted in Figure 3 (Appendix A). The results of these events have been tabulated in Table 1 (Appendix C).

Water levels at individual wells have exhibited seasonal fluctuations over the past year. As can be seen from Table 1 (Appendix C), water levels were measured to be within the screened interval at most monitoring wells during calendar year 2007.

Well MW-9 was not used for monitoring for several years because it had been dry from 1999 to 2004. Water table levels have been above the base of the screened interval at MW-9 during the April and October monitoring periods since late 2004. Due to fluctuations in the seasonal water table during 2006, water levels rose above the screened interval in only one well, well MW-17, as indicated in Table 1 (Appendix C). The water level in well MW-17 was observed to be above the screened interval during six monthly water level measurement events during 2007.

Ideally, water levels should be within the screened interval for water table monitoring wells, particularly to monitor for the presence of light non-aqueous phase liquids (LNAPLs) which collect at the water table surface. However, evidence to indicate the presence of NAPLs at the monitoring wells, including MW-17, was not observed in 2007. As long as such evidence of NAPL presence is not observed when the water table is within a few feet above the top of the screened interval, the well will suffice as a viable groundwater monitoring point.

The general direction of groundwater flow was evaluated for each month's data. The general groundwater flow direction has not changed since groundwater flow was assessed in 1991 for the hydrogeologic assessment. To demonstrate this finding, water level data from three arbitrarily selected monitoring dates was used to construct water table contour maps (Figures 4, 5, and 6, Appendix A). The inferred groundwater flow direction shown on these maps is similar

to the inferred groundwater flow direction depicted on maps presented in the hydrogeologic assessment report and previous annual groundwater monitoring reports.

Based on the above findings, the monitoring wells' positioning, with respect to well depth (vertical) and also with respect to location along the buried waste perimeter (lateral), continues to be adequate. Up-gradient and down-gradient well designations as described in the HMSP should continue to be used.

#### **4.2 Effects of Landfill Operations on Hydrogeologic Setting [110.9(2)b]**

Methods for landfilling of solid waste during 2007 have not varied significantly from original landfilling methods employed when landfilling commenced in 1975. Based on groundwater information discussed above in Section 4.1, it does not appear that landfill operations are altering the hydrogeologic setting at the landfill site.

#### **4.3 Well Sedimentation [110.9(2)c]**

According to the approved HMSP, well depths need to be measured annually to evaluate if the wells are physically intact and not filling with sediment. Well depths were measured during semi-annual monitoring events and recorded on IDNR form 542-1322 which accompanied semi-annual analytical reports submitted to the IDNR and retained at the landfill. The results of these measurements, when compared with well depths depicted on boring logs included in the hydrogeologic assessment report (dated April 26, 1991) and the HMSP (dated October 23, 1998), show that significant silting of site monitoring instruments has not occurred.

#### **4.4 Periodic In-Situ Permeability Tests [110.9(2)d]**

According to the approved HMSP, hydraulic conductivities are to be evaluated at monitoring instruments once every five years. Hydraulic conductivity evaluation of the monitoring instruments was performed during 1991, 1998, and 2003. Summaries of hydraulic conductivity testing are documented in Table 3 (Appendix C). Continued hydraulic conductivity testing is not scheduled to take place until 2008.

### **5.0 LEACHATE WELL MONITORING**

Leachate levels were measured monthly by landfill personnel during 2007. Results of leachate measurements made at leachate wells (LW-1, LW-2, LW-3, and LW-4) are summarized in Table 2 (Appendix C). Locations of leachate wells are depicted in Figure 3 (Appendix A).

Leachate was detected in each of the four leachate wells during 2007. The most significant leachate thicknesses were measured in well LW-3, which were on the order of five to seven

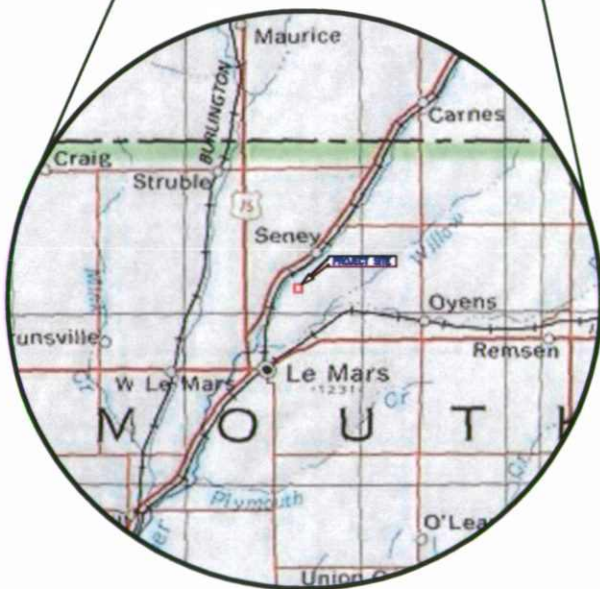
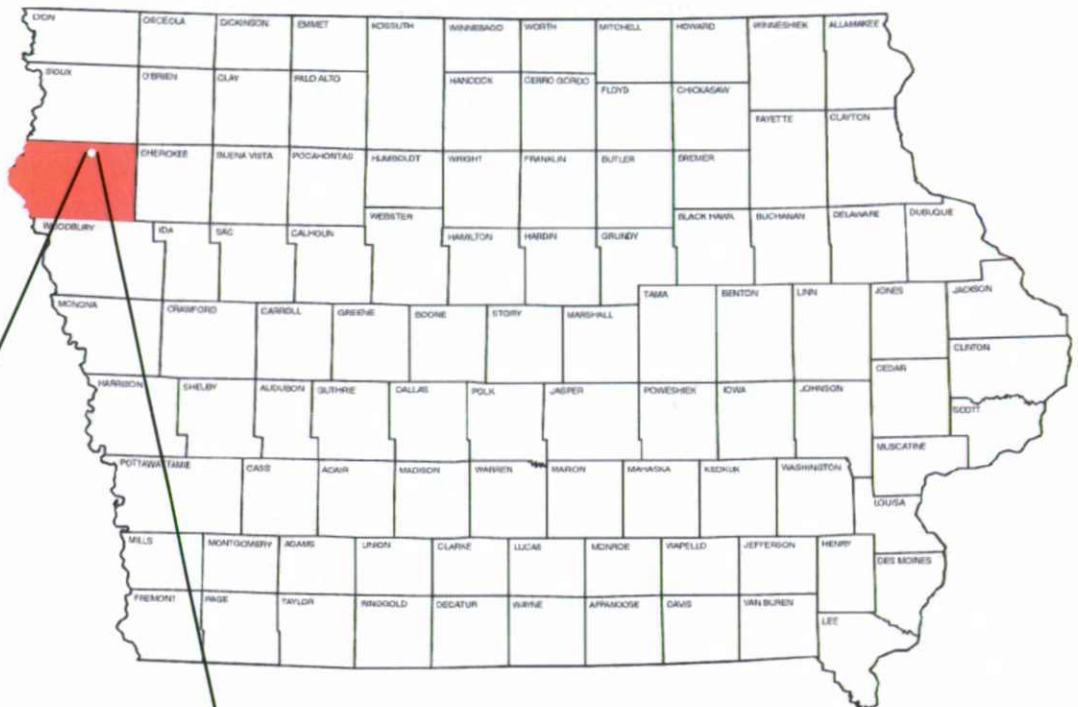
feet. Leachate at well LW-3 has been pumped from the well and temporarily stored in 55-gallon drums at the LW-3 location. Permission has reportedly been granted by the IDNR to transfer the containerized leachate to the landfill's newly constructed leachate storage pond.

## **6.0 GENERAL COMMENTS**

The analysis and opinions expressed in this report are based upon data obtained from the monitoring wells installed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations in subsurface chemistry, stratigraphy, or geohydrology which may occur between borings or across the site. Actual subsurface conditions may vary and may not become evident without further exploration.

This report is prepared for the exclusive use of the Plymouth County Solid Waste Agency for specific application to the project discussed and has been prepared in accordance with generally accepted environmental engineering practices. No warranties, either express or implied, are intended or made. In the event any changes in the nature or location of observed conditions as outlined in this report are found, this report cannot be considered valid unless these changes are reviewed and the opinions of this report are modified or verified in writing by Terracon.



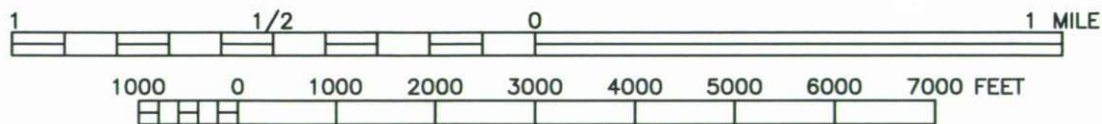
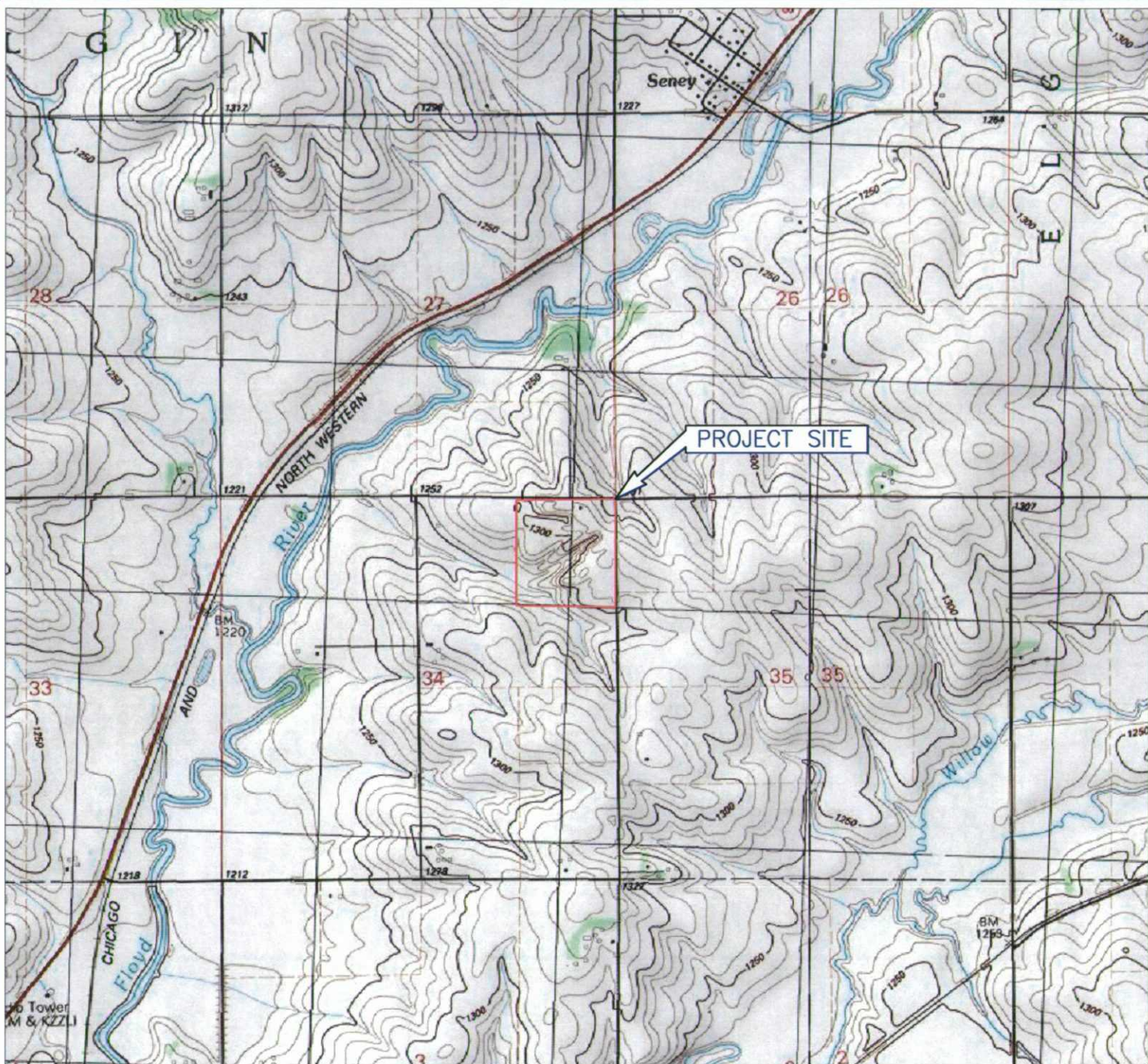


RO PAI 11/21/06

LOCATION DIAGRAM  
PLYMOUTH COUNTY LANDFILL  
PLYMOUTH COUNTY, IOWA

Project Mngr:	RMB	 2211 S. 156th Circle Omaha, NE 68130	Project No.	40905033
Designed By:	RMB		Scale:	NOT TO SCALE
Drawn By:	PAI		File No.	40905033C01
Checked By:	RMB		Date:	NOVEMBER 2006
Approved By:	RMB		Figure No.	1





**NOTES:**  
REPRODUCED FROM THE LE MARS, IA USGS  
7.5-MINUTE TOPOGRAPHIC MAP DATED 1985.

R0 PA 11/21/06

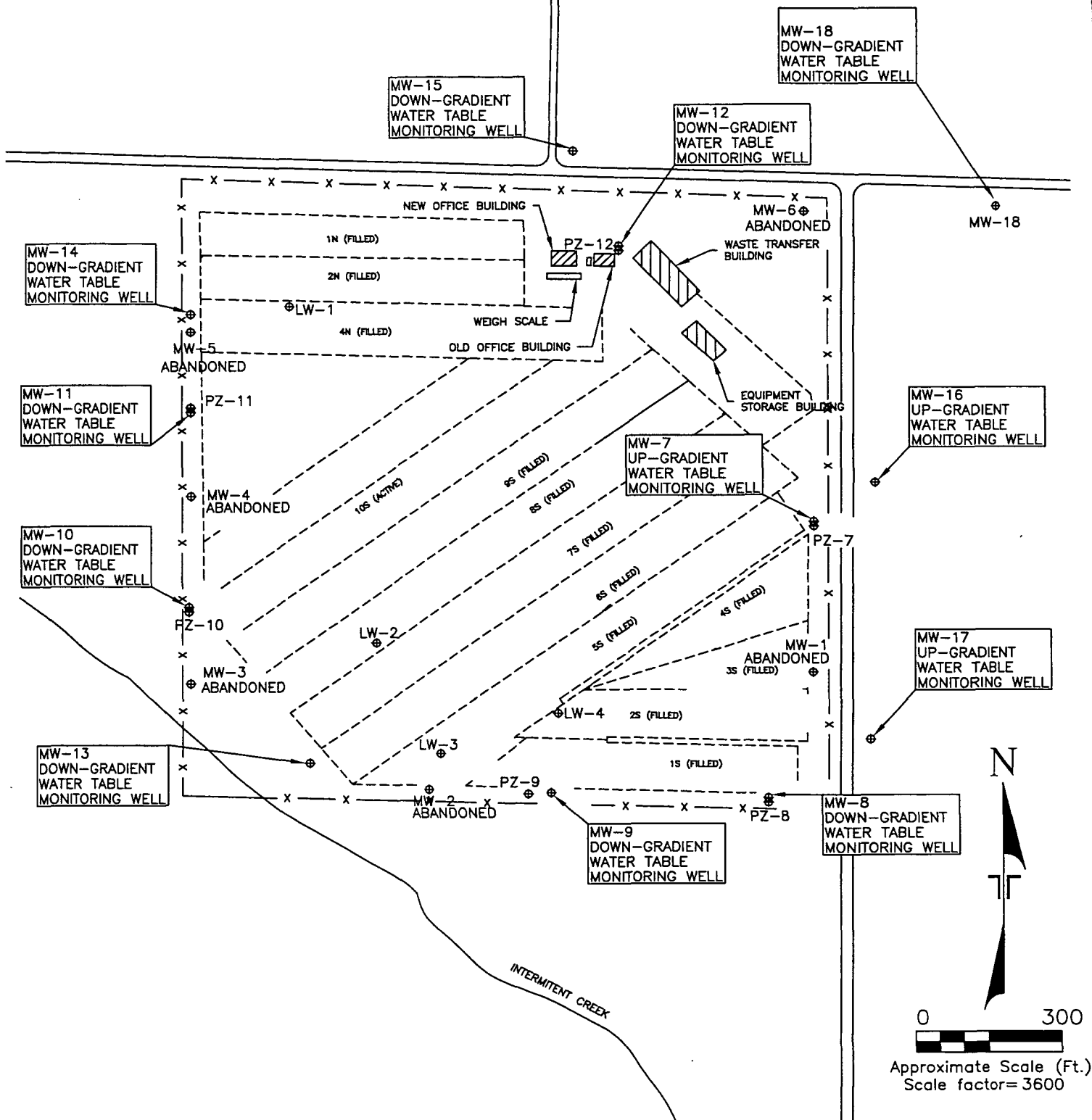
TOPOGRAPHIC/LOCATION MAP  
PLYMOUTH COUNTY LANDFILL  
LE MARS, IOWA

Project Mng: RMB  
Designed By: RMB  
Drawn By: PAI  
Checked By: RMB  
Approved By: RMB


**Terracon**  
2211 S. 156th Circle  
Omaha, NE 68130

Project No. 40905033  
Scale: AS SHOWN  
File No. 40905033C01  
Date: NOVEMBER 2006

Figure No.



### LEGEND

- ⊕ MONITORING INSTRUMENT
- x — FENCE LINE
-  BUILDING

### HMSF MONITORING WELL LOCATIONS PLYMOUTH COUNTY LANDFILL PLYMOUTH COUNTY, IOWA

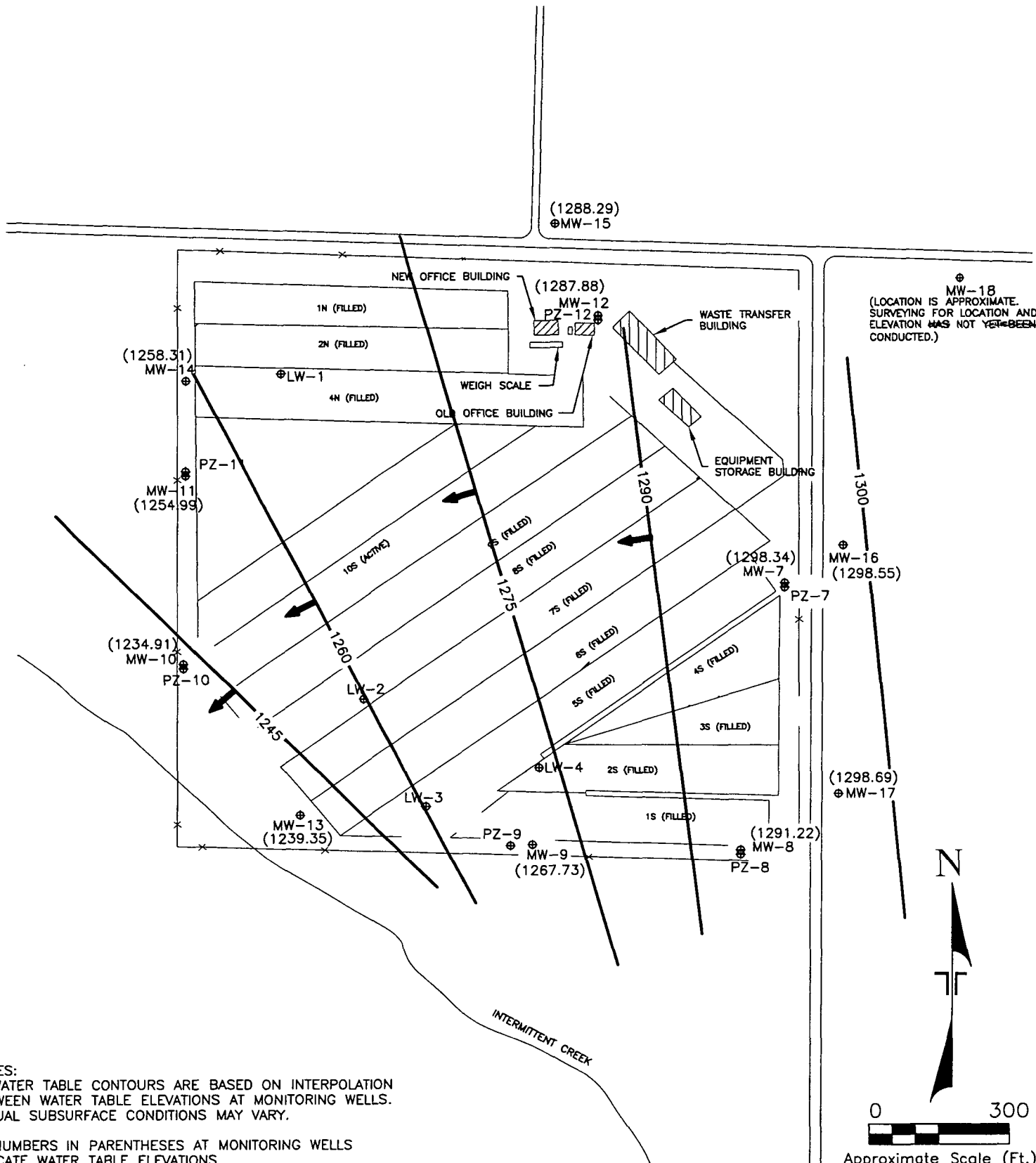
Project Mngr: RMB  
Designed By: RMB  
Drawn By: JTW  
Checked By: RMB  
Approved By: DMS

**Terracon**  
2211 S. 156th Circle  
Omaha, NE 68130

Figure No.

Project No. 40905033  
Scale: 1"=300'  
File No. OE033R43  
Date: NOVEMBER 2005





⊕ MW-18  
(LOCATION IS APPROXIMATE.  
SURVEYING FOR LOCATION AND  
ELEVATION HAS NOT YET BEEN  
CONDUCTED.)

⊕ MW-16  
(1298.55)

(1298.69)  
⊕ MW-17

(1298.34)  
MW-7

(1291.22)  
MW-8

(1267.73)  
MW-9

⊕ MW-13  
(1239.35)

(1234.91)  
MW-10

MW-11  
(1254.99)

(1258.31)  
MW-14

(1288.29)  
⊕ MW-15

- NOTES:
1. WATER TABLE CONTOURS ARE BASED ON INTERPOLATION BETWEEN WATER TABLE ELEVATIONS AT MONITORING WELLS. ACTUAL SUBSURFACE CONDITIONS MAY VARY.
  2. NUMBERS IN PARENTHESES AT MONITORING WELLS INDICATE WATER TABLE ELEVATIONS.
  3. WATER TABLE ELEVATIONS ARE BASED ON MEASUREMENTS TAKEN ON JANUARY 4, 2007.

## LEGEND

- ⊕ MONITORING INSTRUMENT  
→ INFERRED GROUNDWATER FLOW DIRECTION  
—1275— WATER TABLE CONTOUR  
— x — FENCE LINE  
▨ BUILDING

0 300

Approximate Scale (Ft.)  
Scale factor=1:3600

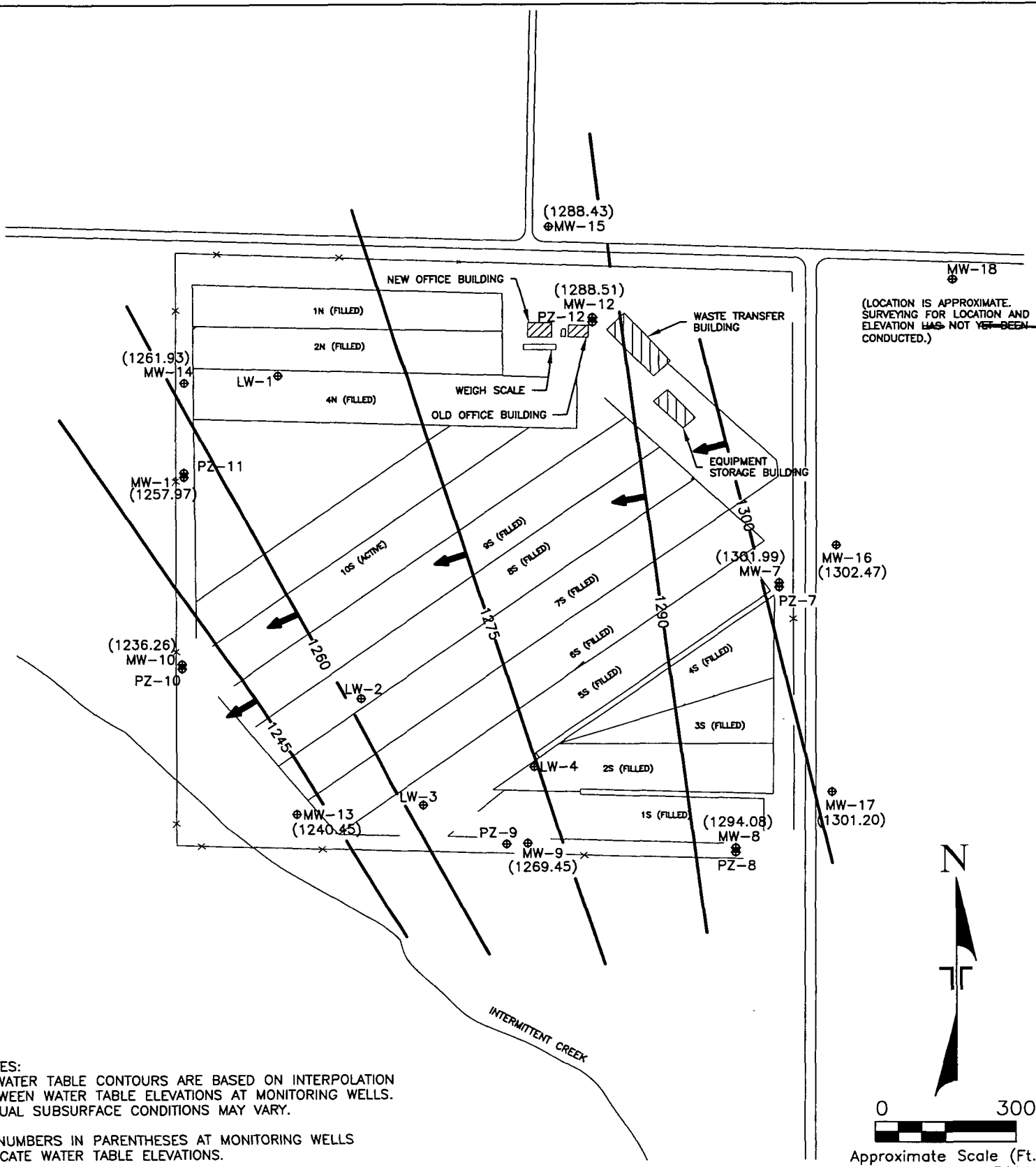
## WATER TABLE CONTOUR MAP JANUARY 4, 2007 PLYMOUTH COUNTY LANDFILL PLYMOUTH COUNTY, IOWA

Project Mngr: RMB  
Designed By: RMB  
Drawn By: PAI  
Checked By: RMB  
Approved By: DMS

**Terracon**  
2211 South 156th Circle  
Omaha, NE 68130

Figure No.

Project No. 40905033  
Scale: AS SHOWN  
File No. 40905033C02  
Date: NOVEMBER 2007



# NOTES:

1. WATER TABLE CONTOURS ARE BASED ON INTERPOLATION BETWEEN WATER TABLE ELEVATIONS AT MONITORING WELLS. ACTUAL SUBSURFACE CONDITIONS MAY VARY.

2. NUMBERS IN PARENTHESES AT MONITORING WELLS INDICATE WATER TABLE ELEVATIONS.

3. WATER TABLE ELEVATIONS ARE BASED ON MEASUREMENTS TAKEN ON JULY 25, 2007.

## LEGEND

- ⊕ MONITORING INSTRUMENT
- INFERRED GROUNDWATER FLOW DIRECTION
- 1265 — WATER TABLE CONTOUR
- x — FENCE LINE
- ▨ BUILDING

## WATER TABLE CONTOUR MAP JULY 25, 2007 PLYMOUTH COUNTY LANDFILL PLYMOUTH COUNTY, IOWA

Project Mngr:	RMB	<div> <div>Terracon</div> <div>2211 South 156th Circle Omaha, NE 68130</div> </div>	Project No.	40905033
Designed By:	RMB		Scale:	AS SHOWN
Drawn By:	PAI		File No.	40905033C03
Checked By:	RMB		Date:	NOVEMBER 2007
Approved By:	DMS		Figure No.	



## ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-17 (Up-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE													
	Upper Control Limit	Lower Control Limit	MW-17 Standard Deviation	MW-17 Mean	10/4/1997	11/10/1997	1/8/1998	4/22/1998	7/1/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000	4/25/2001	10/23/2001	4/28/2002	10/6/2002
	via MW-17	via MW-17																
<b>Laboratory Parameters</b>																		
Chloride (mg/l)	4.710	0.707	1.001	2.709	-	2.5	2.5	2.5	7.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	2.737	3.696	-	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	11
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	-	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.114	0.250	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.000	1.000	1.0	1.0	1.0	1.0	1.0	1.0	-	1.0	1.0	-	-	-	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.283	0.585	-	0.5	0.5	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	-	0.01	-	0.01	-	0.01	-	0.01	0.01	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.005	-	-	-	-	-	0.005	-	0.005	-	0.005	-	0.005	0.005	0.005
<b>Field Parameters</b>																		
pH	8.1	6.0	0.51	7.06	-	-	-	7.0	7.0	6.8	6.8	6.8	7	5.1	7.5	7.5	6.9	7.4
Specific Conductance (µs/cm)	809	198	152.8	503.5	-	-	-	408	450	444	449	449	465	440	511	473	427	417

## NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative Limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

## ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-17 (Up-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE									
	Upper Control Limit	Lower Control Limit	MW-17 Standard Deviation	MW-17 Mean										
	via MW-17	via MW-17			4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006	4/23/2007	10/9/2007
<b>Laboratory Parameters</b>														
Chloride (mg/l)	4.710	0.707	1.001	2.709	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	2.737	3.696	7.5	2.5	2.5	2.5	2.5	2.5	2.5	8.4	10.6	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.114	0.250	0.20	0.20	0.20	0.20	0.20	0.20	0.50	0.50	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.000	1.000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.283	0.585	-	0.5	1.44	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	0.01	-	0.01	-	0.01	-	-	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.005	0.005	-	0.005	-	0.005	-	-	-	0.005	-
<b>Field Parameters</b>														
pH	8.1	6.0	0.51	7.1	7.3	7.6	6.9	7.2	7.2	7.37	7.21	7.35	7.19	7.18
Specific Conductance (µs/cm)	809	198	152.8	503	299	572	525	861	131	699	632	620	638	663

## NOTE:

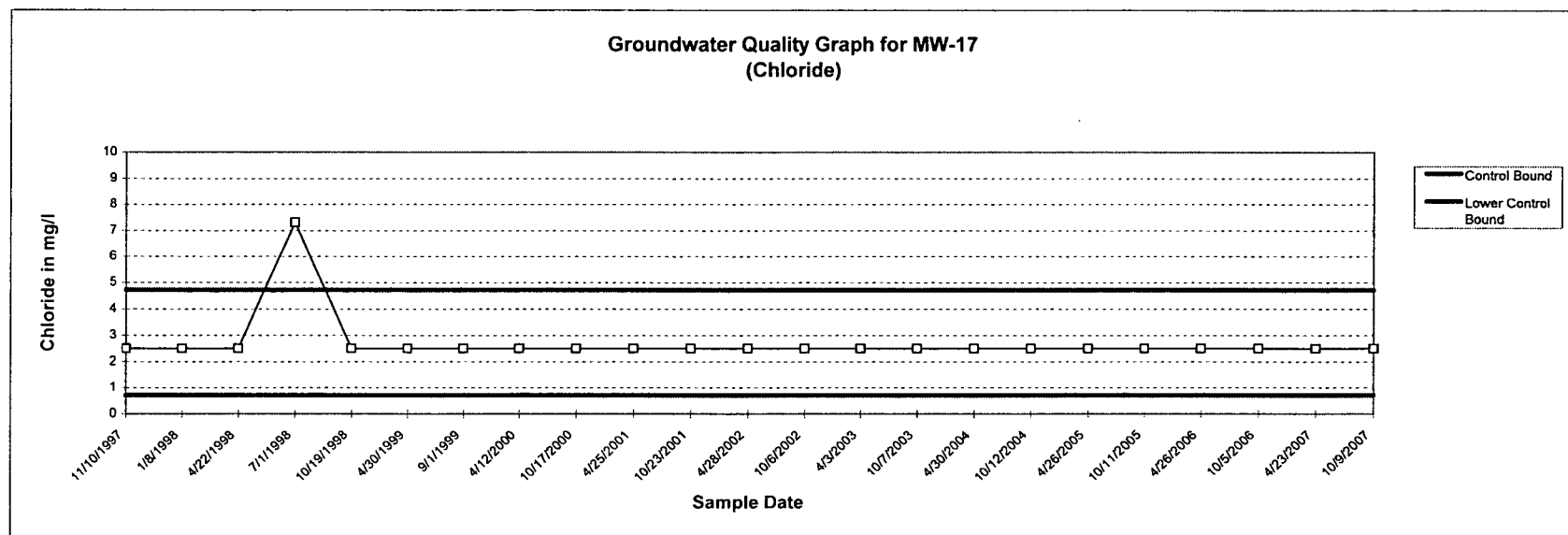
- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit (QL) for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the QL was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



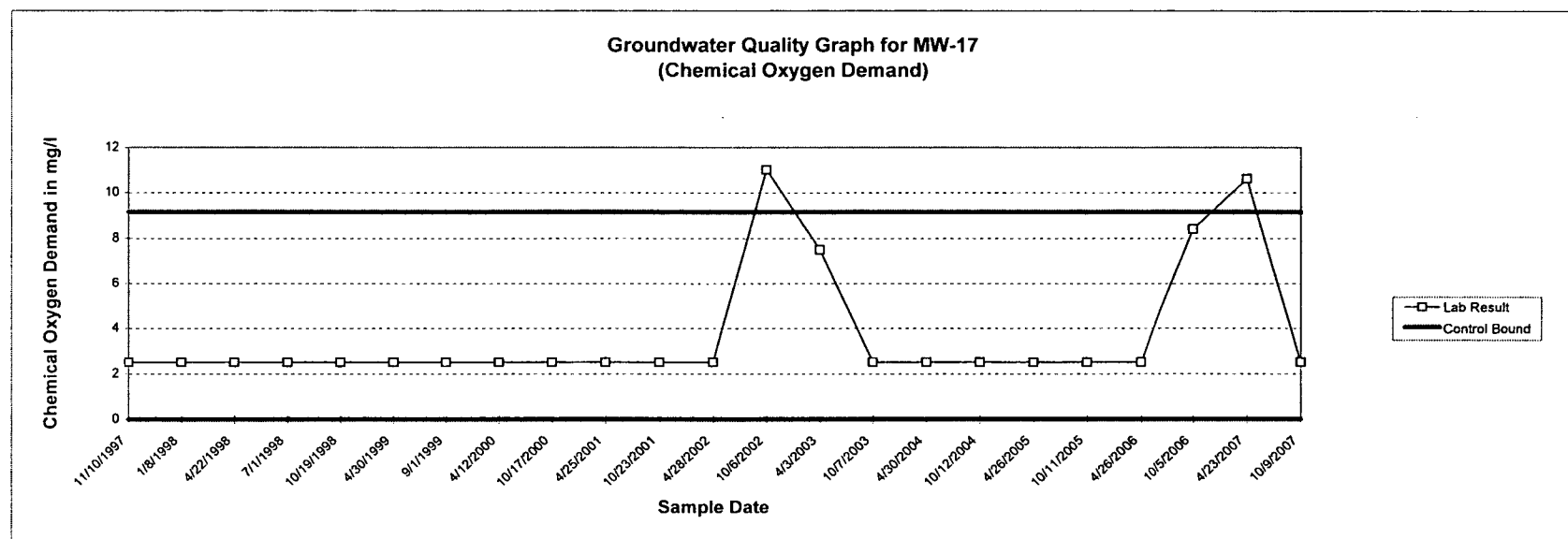
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

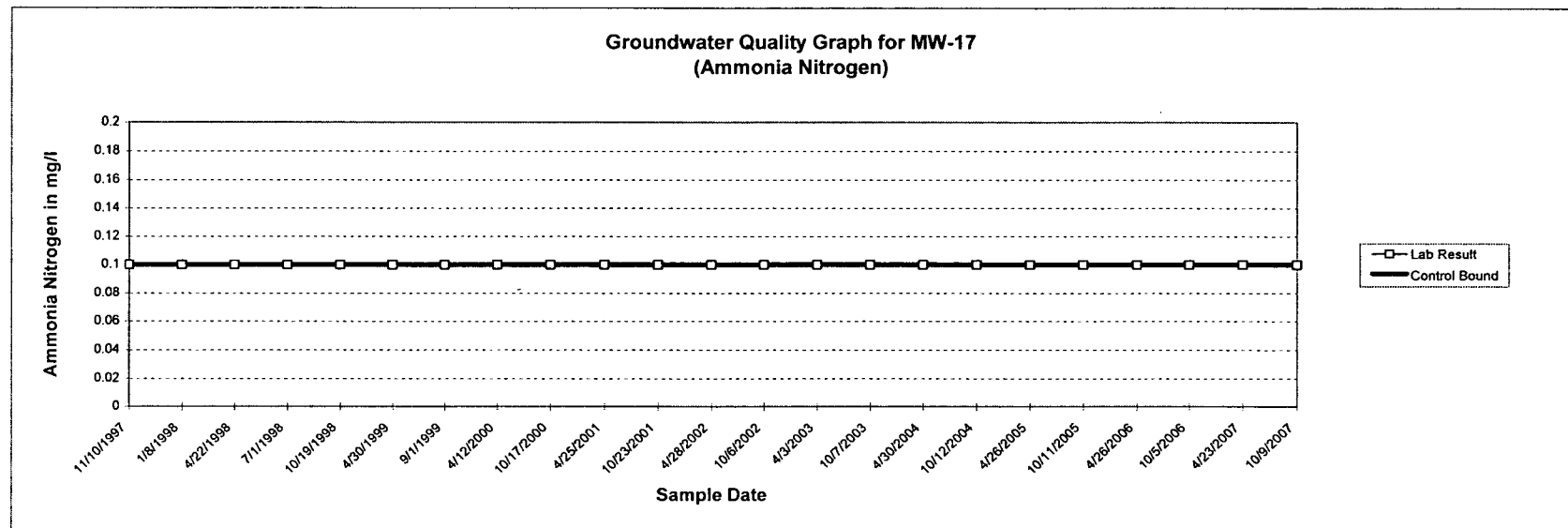


### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



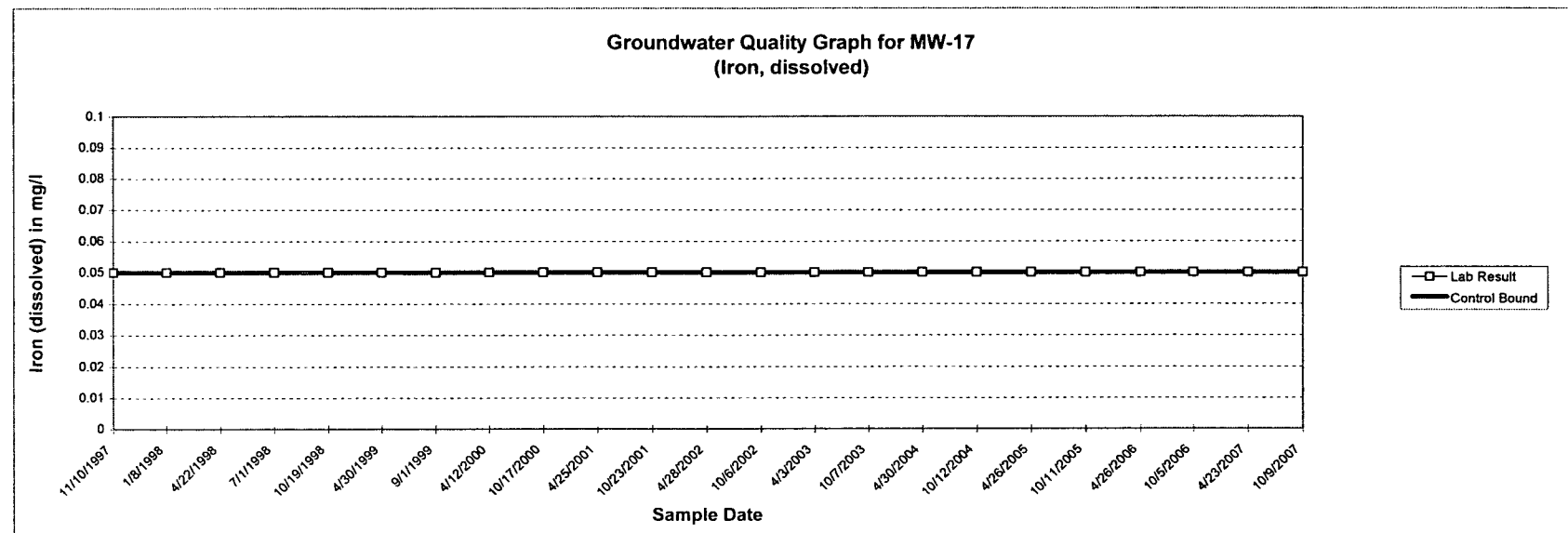
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

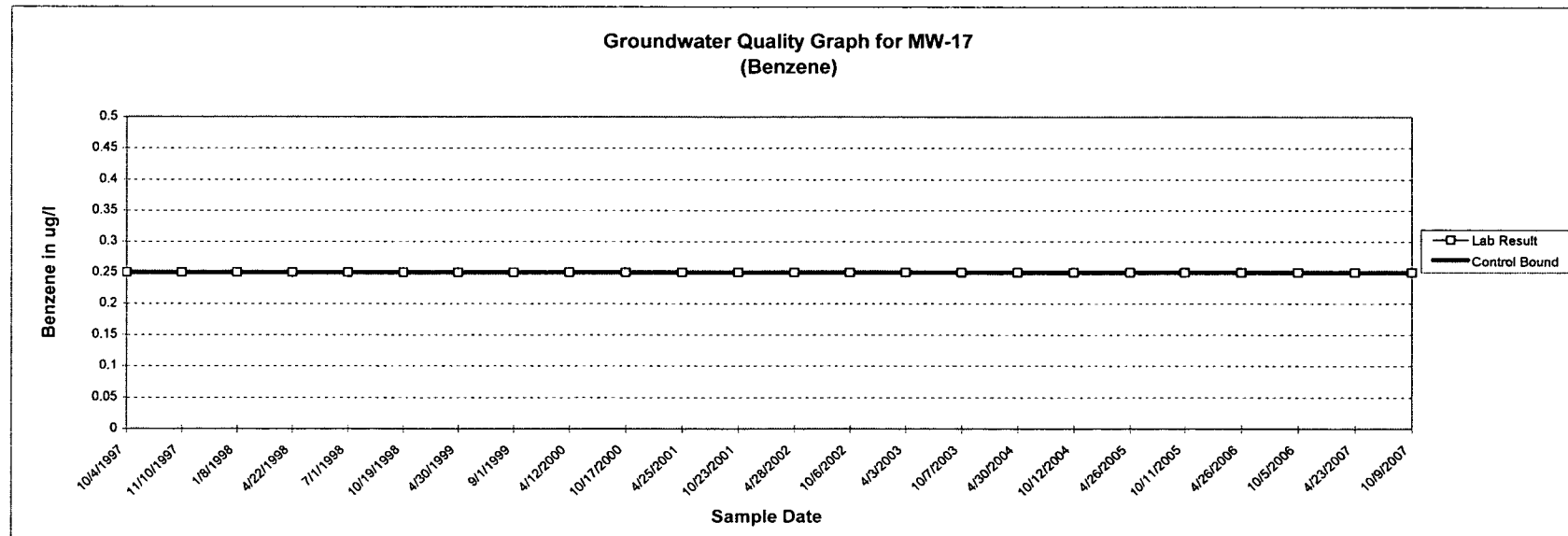


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

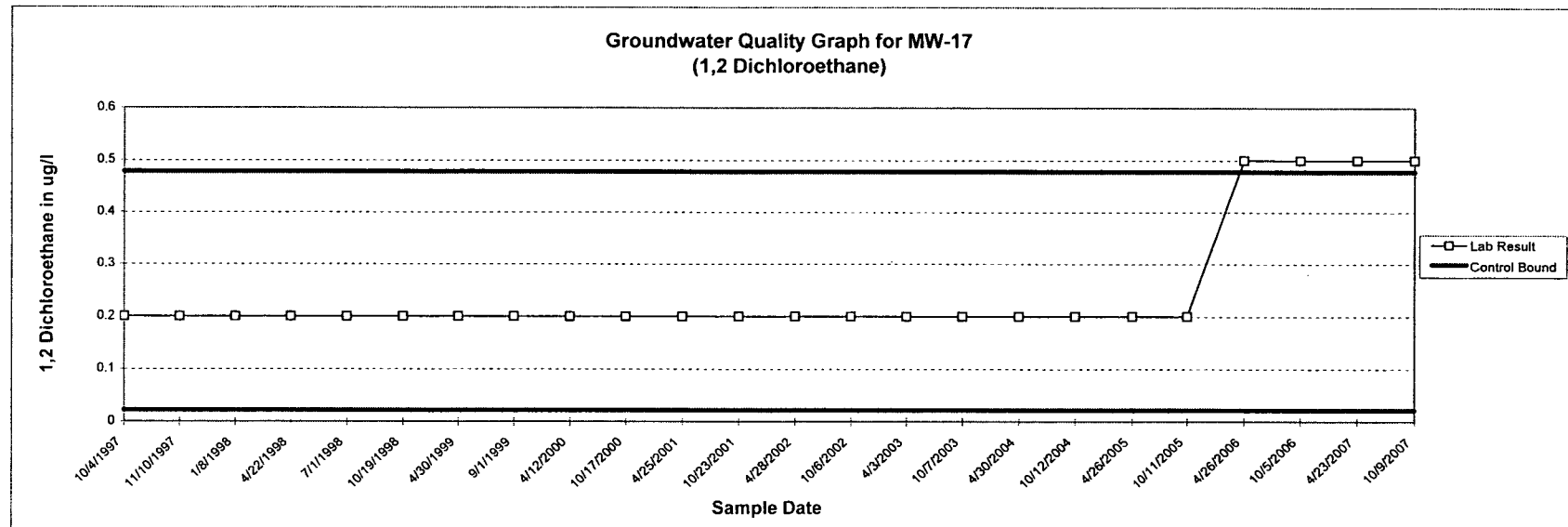


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



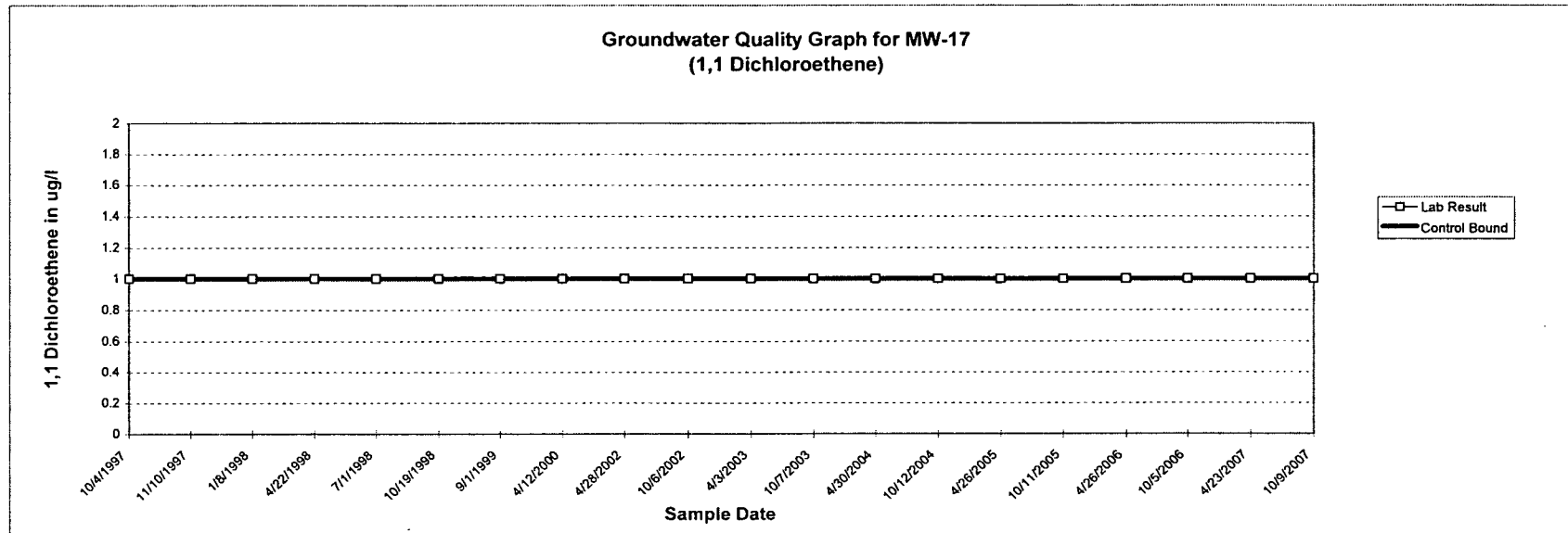
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

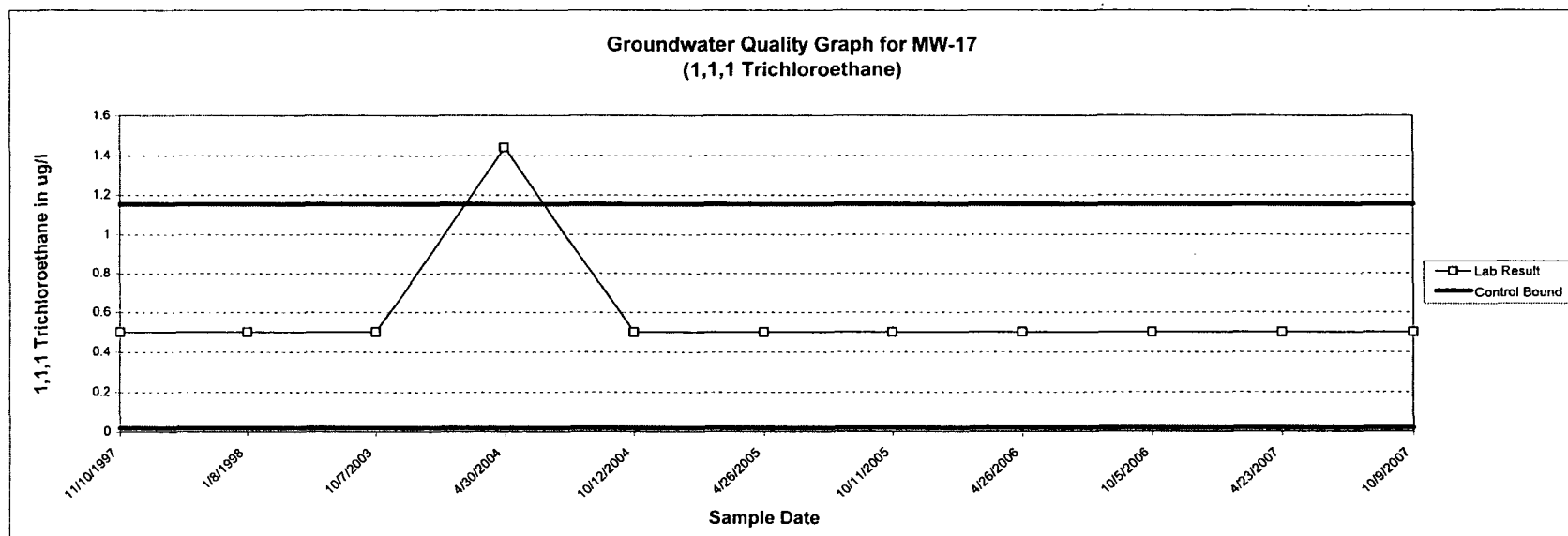


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



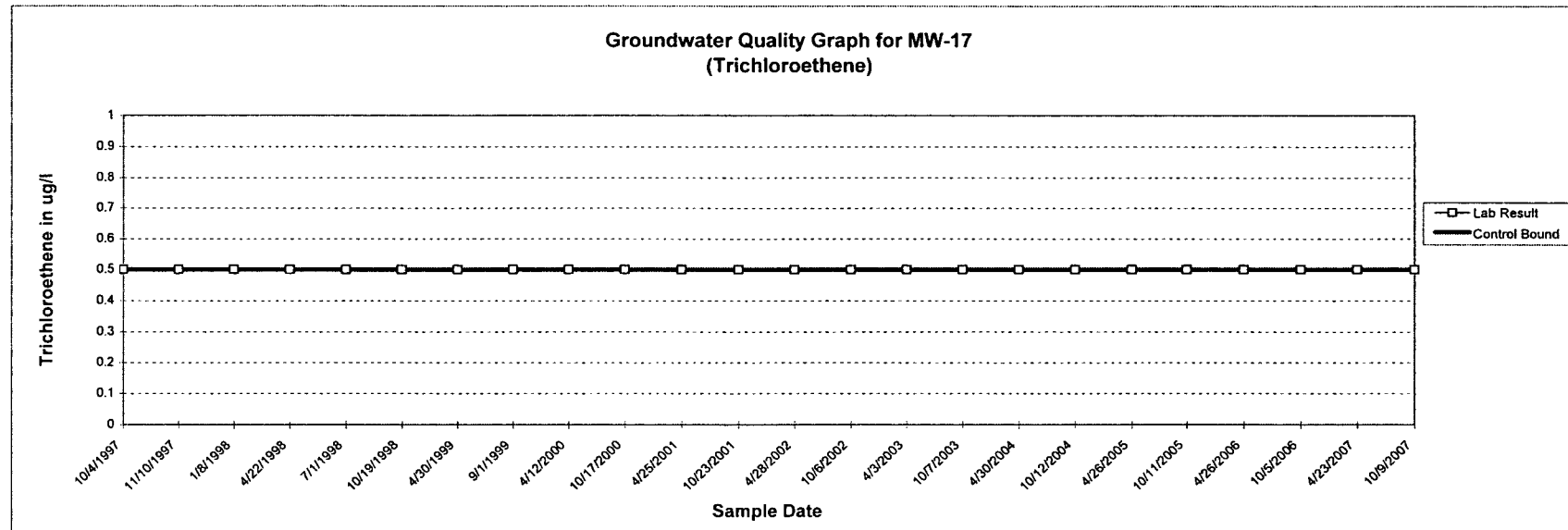
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

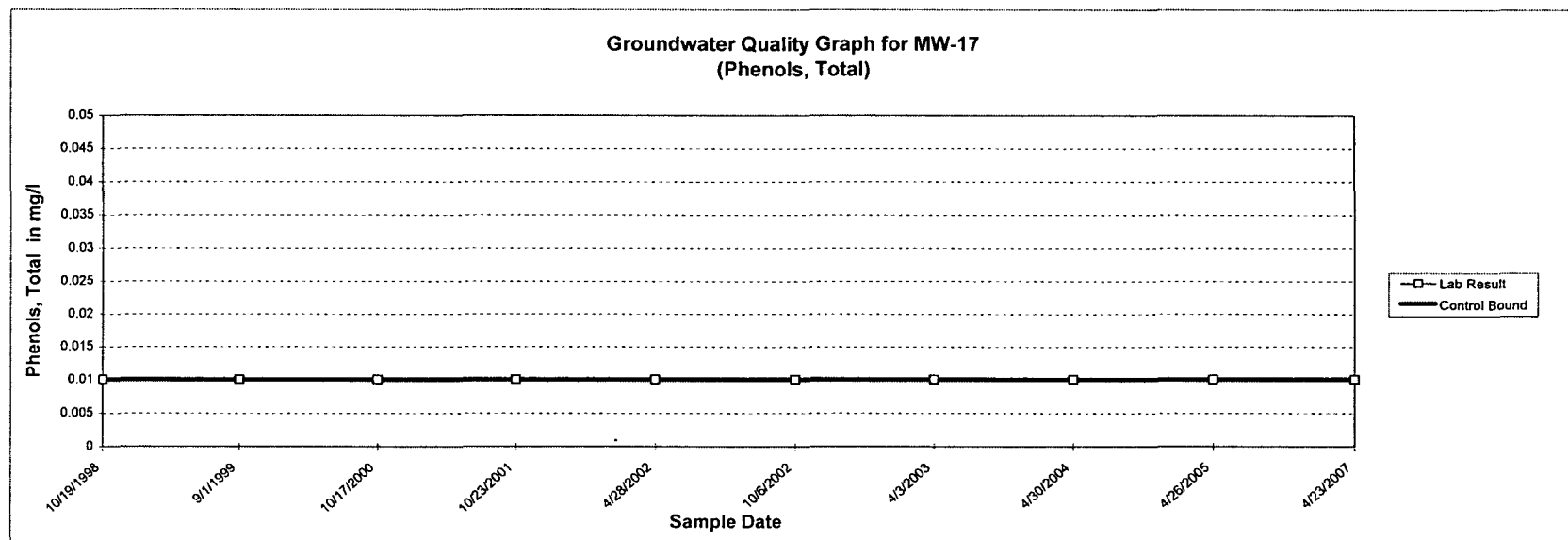


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



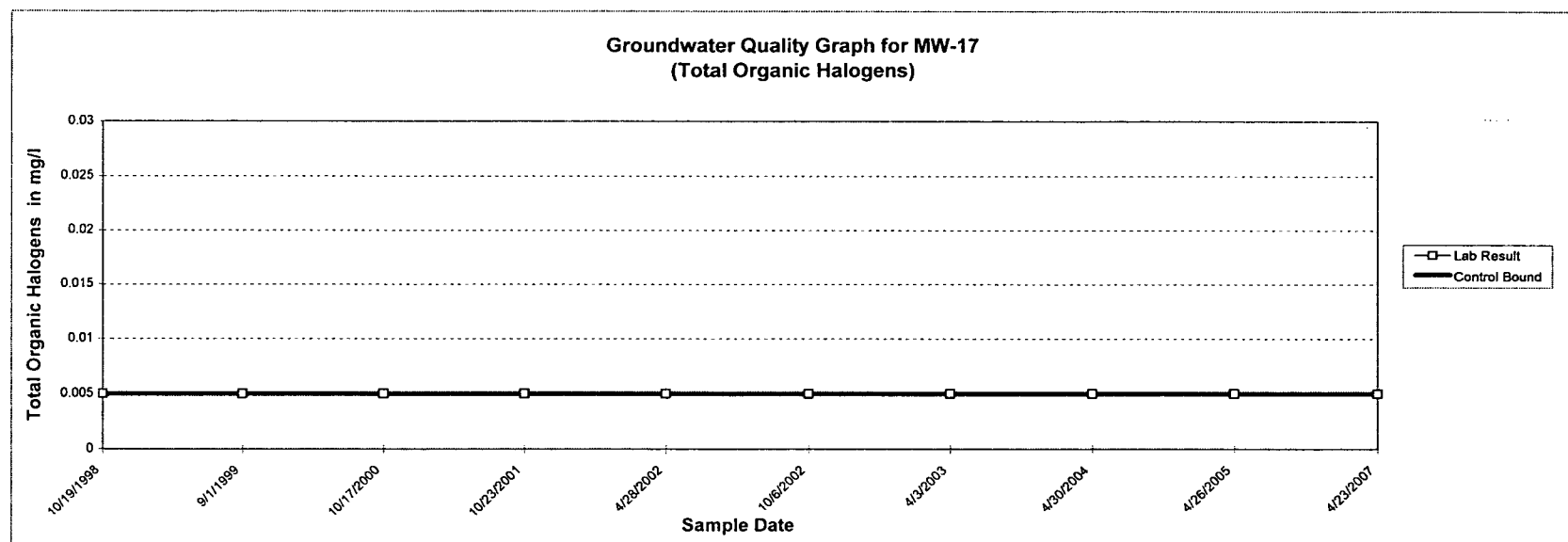
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



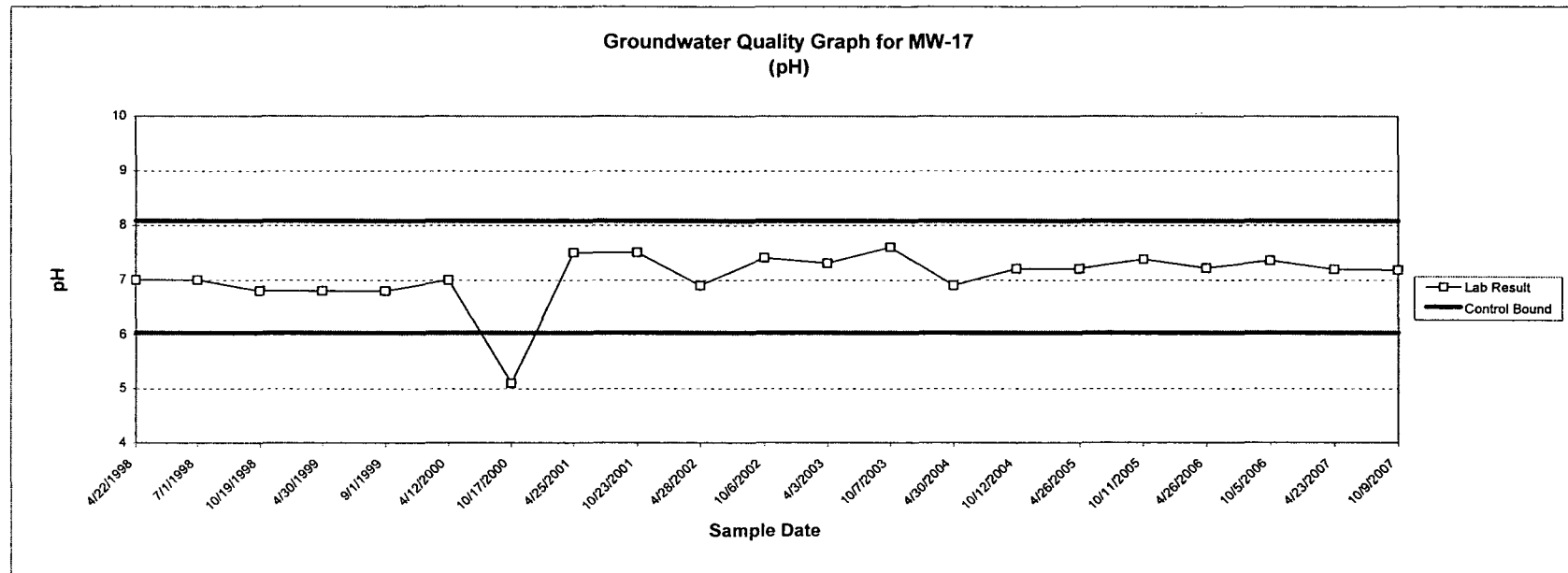
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



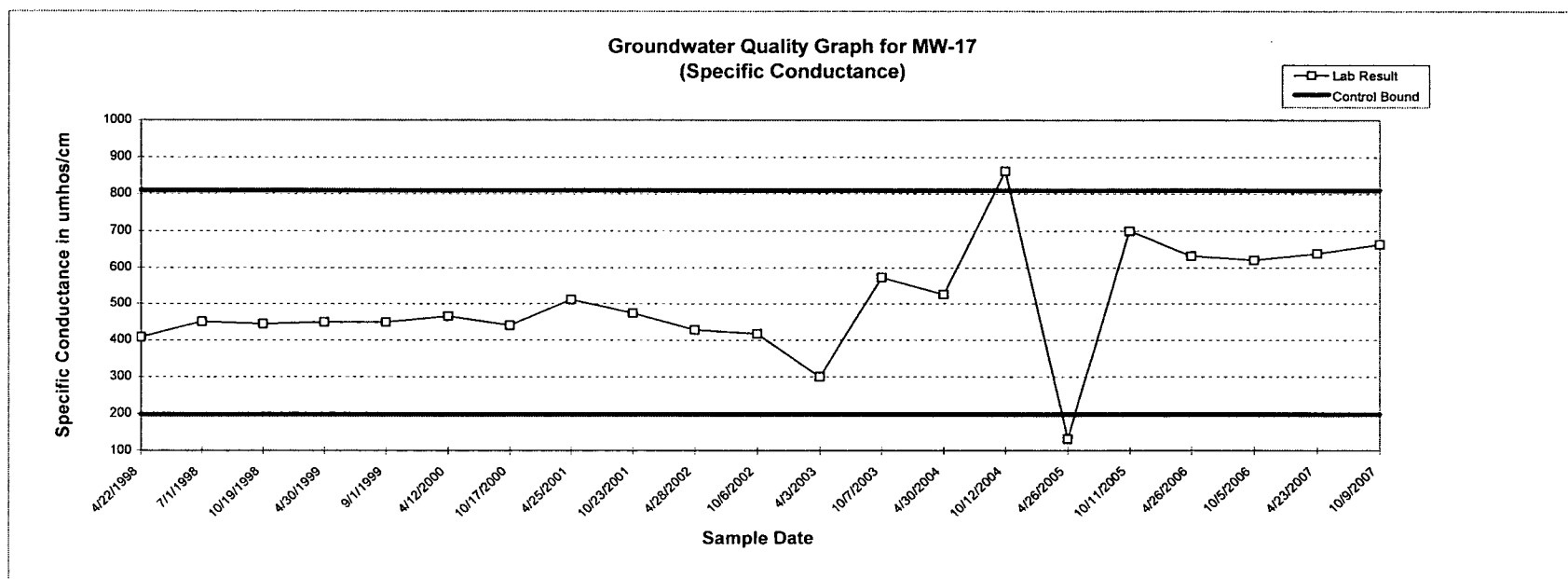
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-17

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-18

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-18** (Down-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE							
	Upper Control Limit	Lower Control Limit	MW-18 Standard Deviation	MW-18 Mean								
	via MW-17	via MW-17			10/11/2005	4/25/2006	10/5/2006	4/23/2007	10/9/2007			
<b>Laboratory Parameters</b>												
Chloride (mg/l)	4.710	0.707			-	-	-	-	-			
Chemical Oxygen Demand (mg/l)	9.169	0.000			-	-	-	-	-			
Ammonia Nitrogen (mg/l)	0.100	0.100			-	-	-	-	-			
Iron, dissolved (mg/l)	0.050	0.050			-	-	-	-	-			
Benzene (µg/l)	0.250	0.250	0.000	0.250	<b>0.25</b>	<b>0.25</b>	<b>0.25</b>	-	-			
1,2-Dichloroethane (µg/l)	0.478	0.022	0.173	0.400	<b>0.2</b>	<b>0.5</b>	<b>0.5</b>	-	-			
1,1-Dichloroethene (µg/l)	1.000	1.000	0.520	0.700	<b>0.1</b>	<b>1.0</b>	<b>1.0</b>	-	-			
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	-	-			
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	-	-			
Phenols, Total (mg/l)	0.010	0.010			-	-	-	-	-			
Total Organic Halogens (mg/l)	0.005	0.005			-	-	-	-	-			
<b>Field Parameters</b>												
pH	8.1	6.0	0.103	7.445	7.4	7.6	7.4	-	7.4			
Specific Conductance (µs/cm)	809	198	244.118	874.250	1240	769	744	-	744			

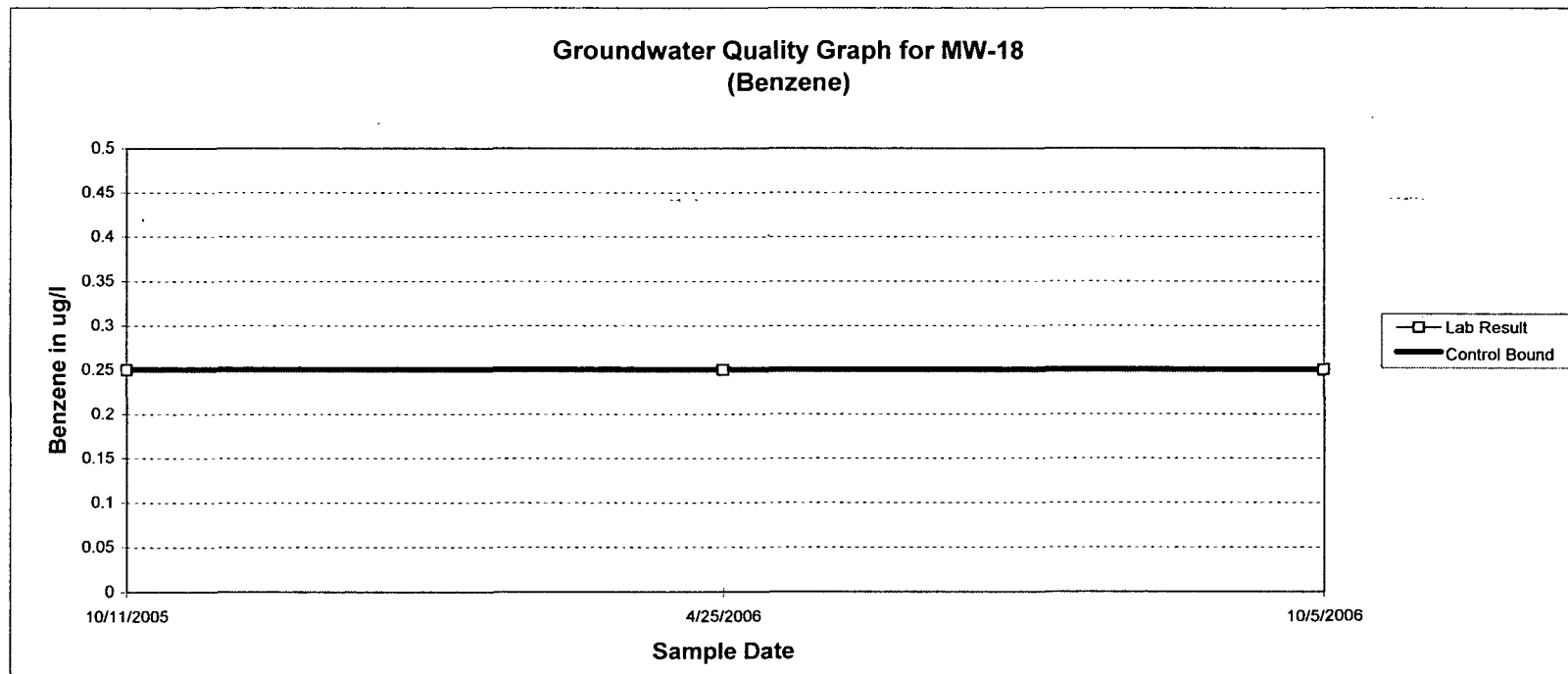
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative Limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



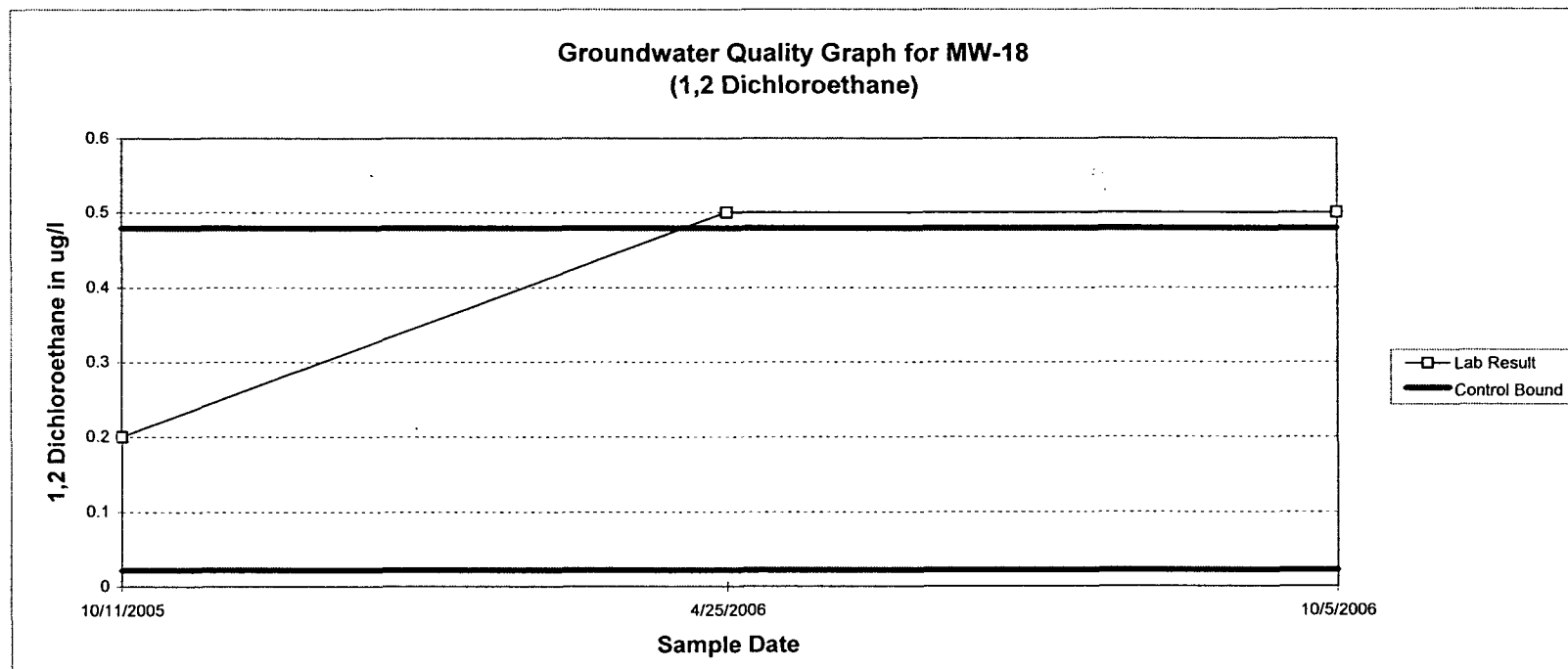
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

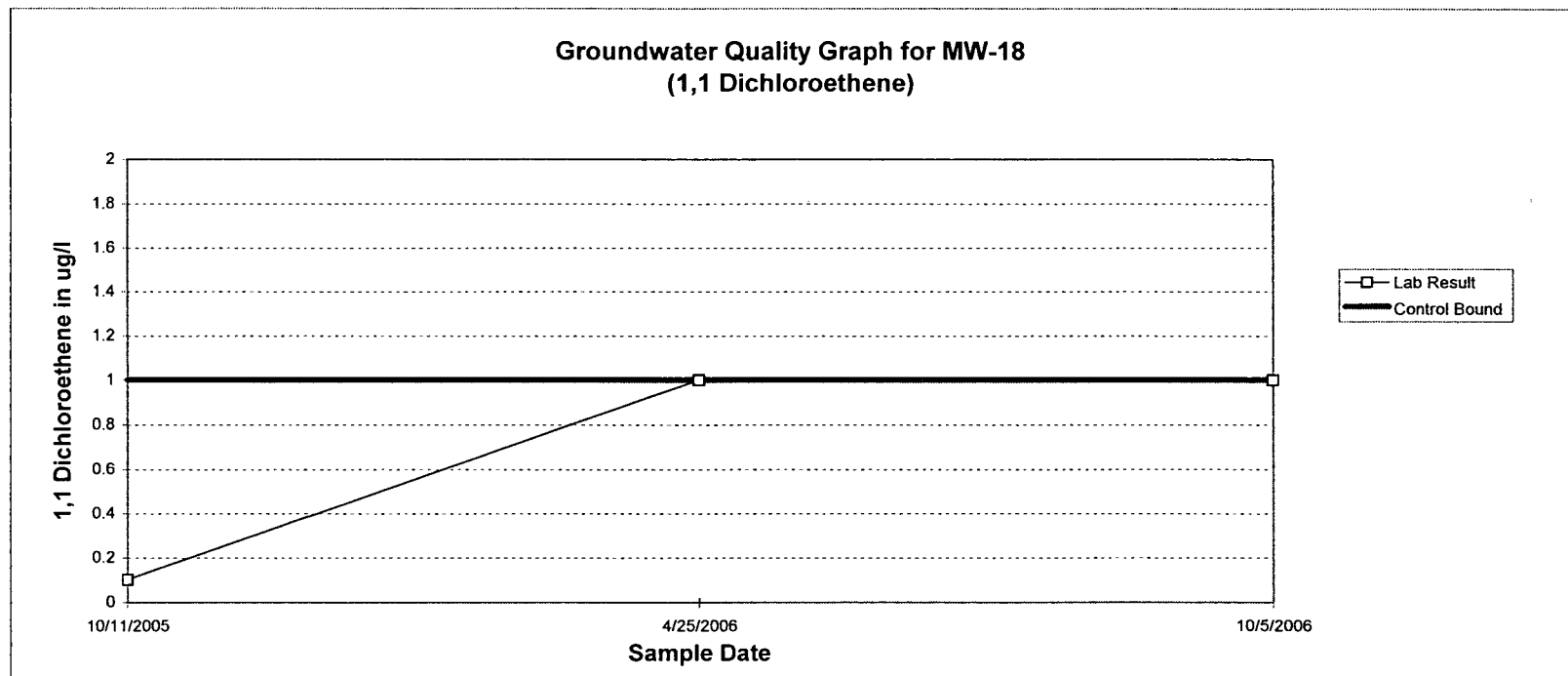
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



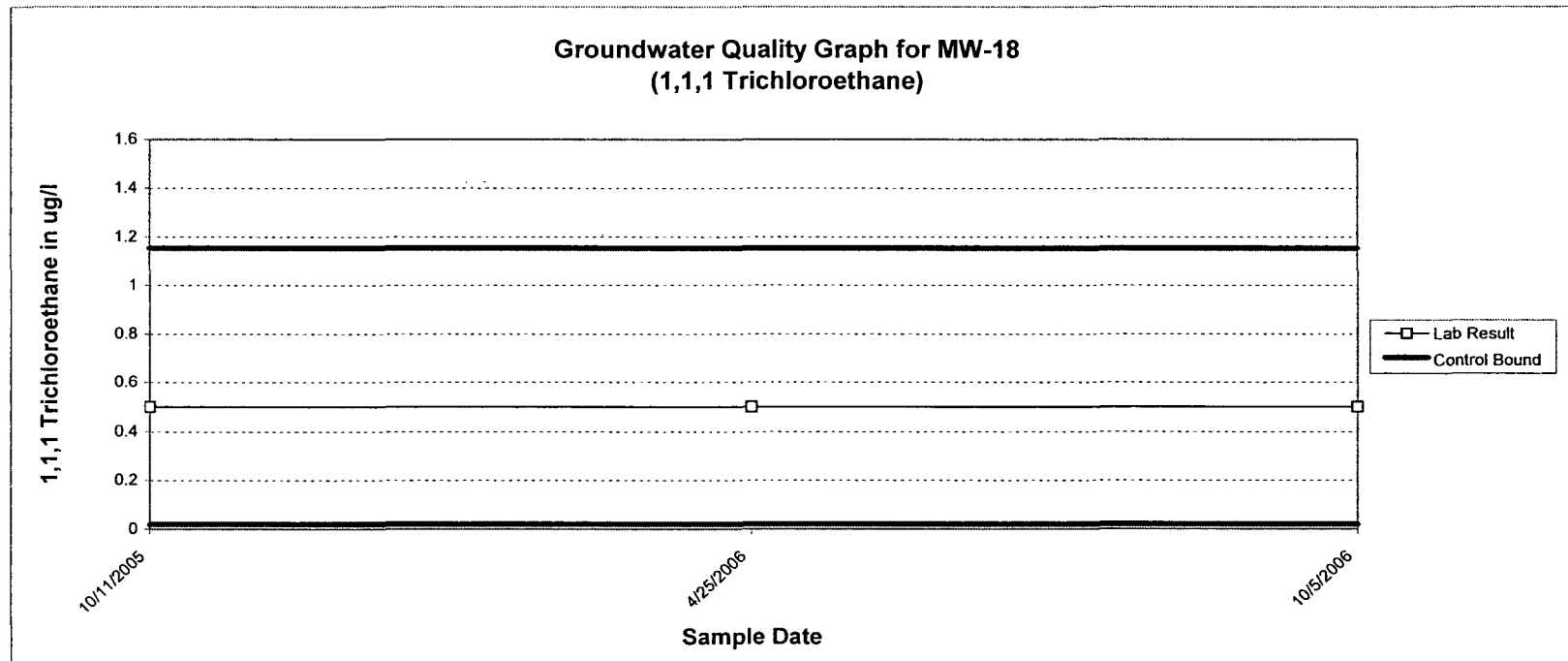
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



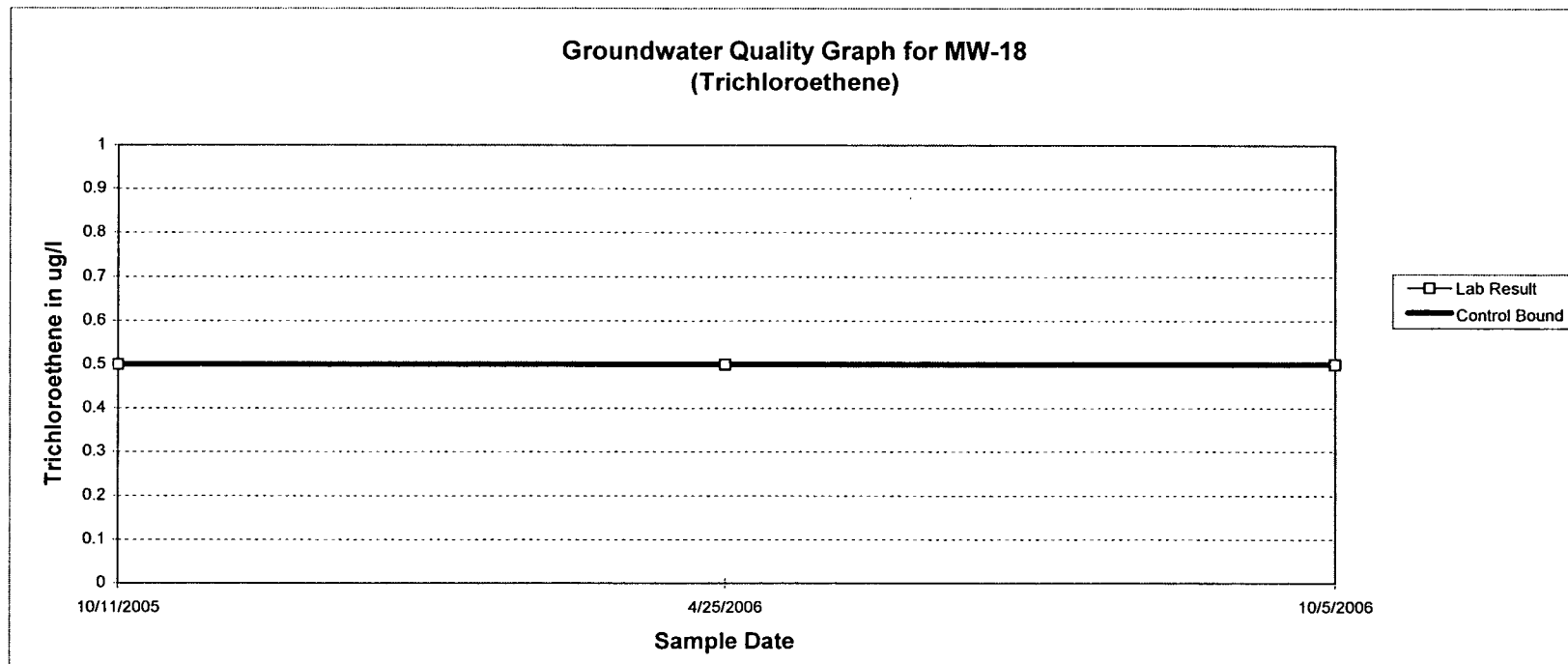
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



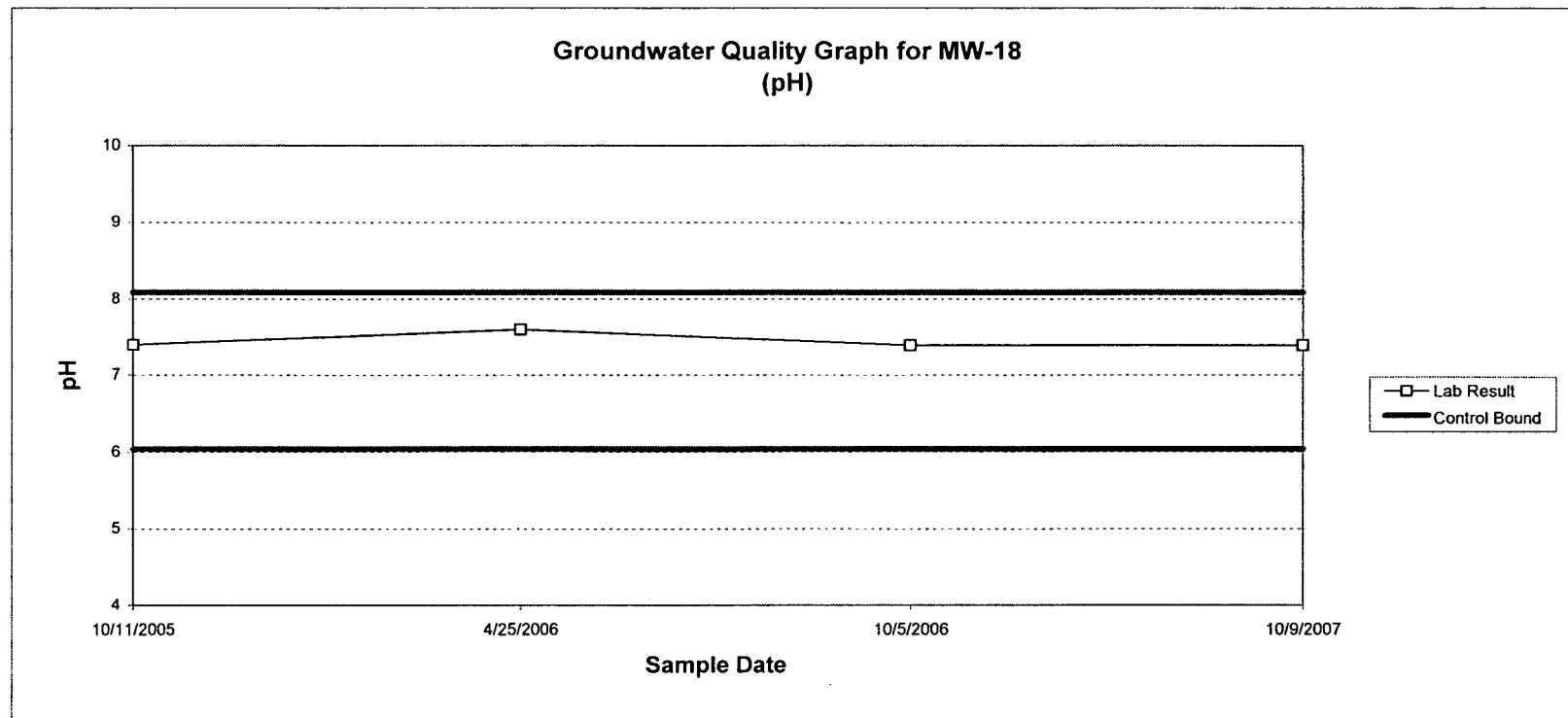
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



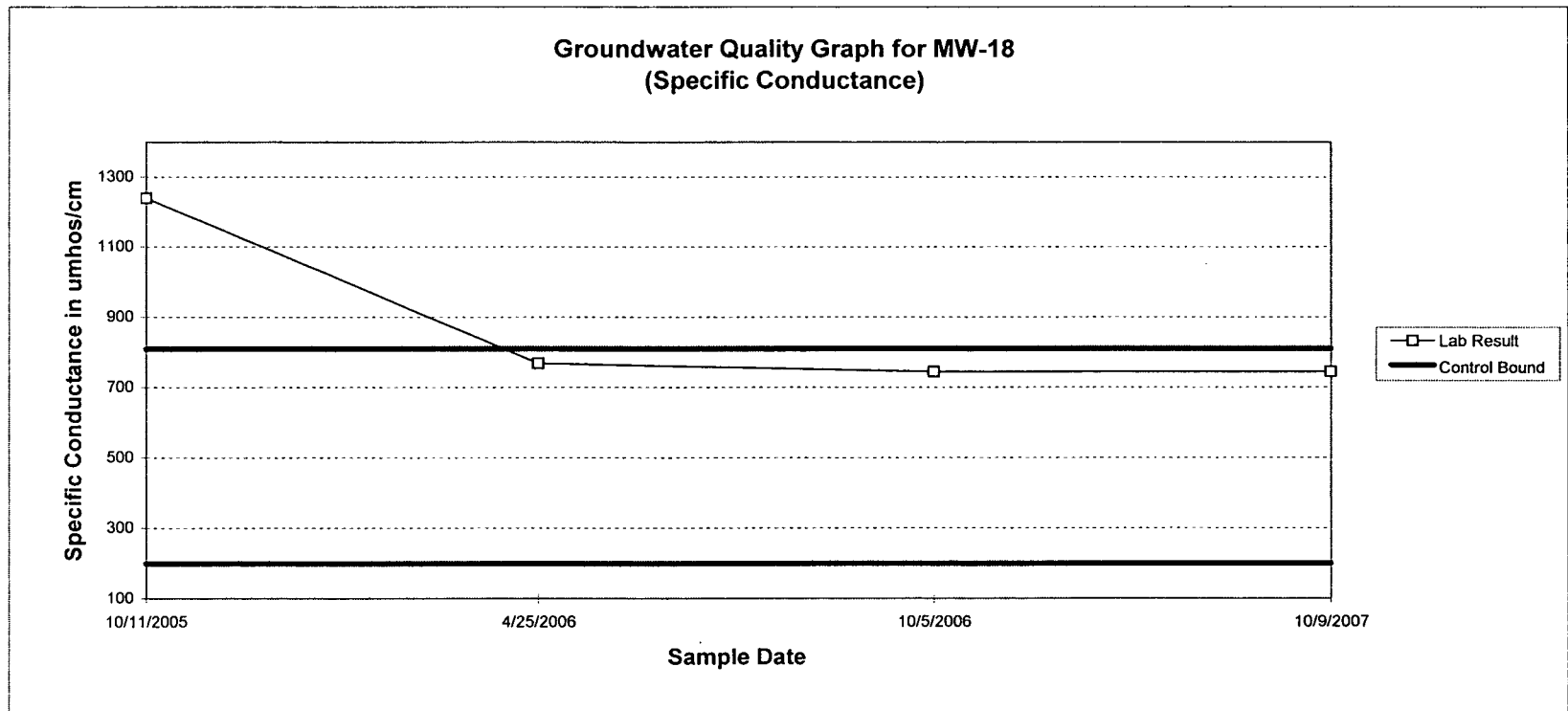
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-18

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-16

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-16** (Up-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE								
	Upper Control Limit	Lower Control Limit	MW-16 Standard	MW-16 Mean									
	via MW-17	via MW-17	Deviation		10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000	4/25/2001	10/23/2001
<b>Laboratory Parameters</b>													
Chloride (mg/l)	4.710	0.707	1.955	4.667	-	-	-	-	-	-	-	5.2	2.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	0.000	2.500	-	-	-	-	-	-	-	2.5	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	-	-	-	-	-	-	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	-	-	-	-	-	-	-	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.121	0.257	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.000	1.000	1.0	1.0	1.0	-	1.0	1.0	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.131	0.529	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	-	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.005	-	-	-	-	-	-	0.005	-	0.005
<b>Field Parameters</b>													
pH	8.1	6.0	0.410	7.046	-	6.9	6.7	6.5	6.1	6.3	6.7	7.4	7.3
Specific Conductance (µs/cm)	809	198	160.236	518.900	-	448	473	500	546	445	346	409	487

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative Limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-16

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-16** (Up-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE									
	Upper Control Limit	Lower Control Limit	MW-16 Standard Deviation	MW-16 Mean										
	via MW-17	via MW-17			4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>														
Chloride (mg/l)	4.710	0.707	1.955	4.667	-	-	-	6.3	-	-	-	-	-	-
Chemical Oxygen Demand (mg/l)	9.169	0.000	0.000	2.500	-	-	-	2.5	-	-	-	-	-	-
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	-	-	0.1	-	-	-	-	-	-
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	-	-	-	0.05	-	-	-	-	-	-
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.121	0.257	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.000	1.000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	0.131	0.529	0.5	0.5	0.5	0.5	1.1	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	-	-	-	-	-	-
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.005	-	-	-	-	-	-	-	-	-	-
<b>Field Parameters</b>														
pH	8.1	6.0	0.4	7.0	7	7.4	7.3	7.6	6.9	7.3	7.1	7.5	7.36	7.34
Specific Conductance (µs/cm)	809	198	160	519	450	403	466	339	795	659	161	725	657	643

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative Limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-16

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-16 (Up-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE									
	Upper Control Limit	Lower Control Limit	MW-16 Standard Deviation	MW-16 Mean	4/23/2007	10/9/2007								
	via MW-17	via MW-17												
<b>Laboratory Parameters</b>														
Chloride (mg/l)	4.710	0.707	1.955	4.667	-	-								
Chemical Oxygen Demand (mg/l)	9.169	0.000	0.000	2.500	-	-								
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	-								
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	-	-								
Benzene (µg/l)	0.250	0.250	0.000	0.250	<b>0.25</b>	<b>0.25</b>								
1,2-Dichloroethane (µg/l)	0.478	0.022	0.121	0.257	<b>0.5</b>	<b>0.5</b>								
1,1-Dichloroethene (µg/l)	1.000	1.000	0.000	1.000	<b>1.0</b>	<b>1.0</b>								
1,1,1-Trichloroethane (ug/l)	1.152	0.019			<b>0.5</b>	<b>0.5</b>								
Trichloroethene (µg/l)	0.500	0.500	0.131	0.529	<b>0.5</b>	<b>0.5</b>								
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-								
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.005	-	-								
<b>Field Parameters</b>														
pH	8.1	6.0	0.4	7.0	7.18	7.03								
Specific Conductance (µs/cm)	809	198	160	519	685	741								

#### NOTE:

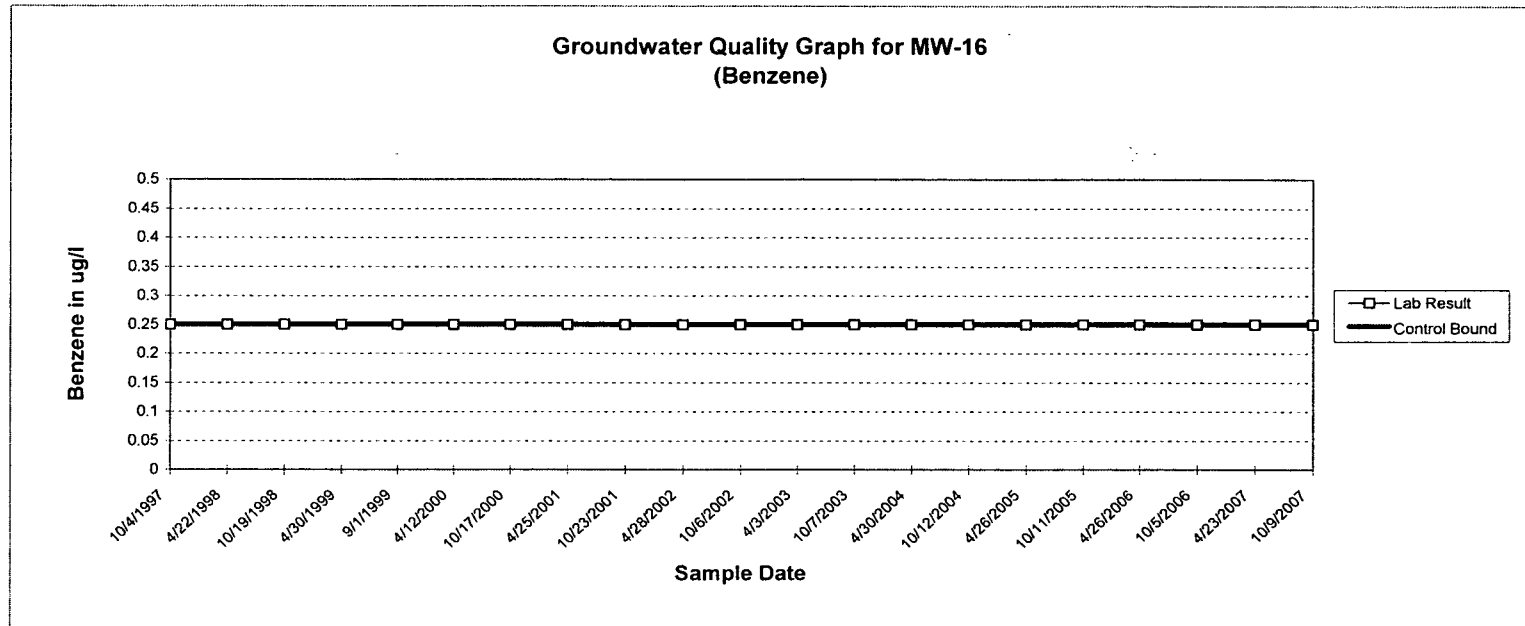
- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the Quantitative Limit for parameters not detected.
- 3) One-half of the Quantitative Limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative Limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



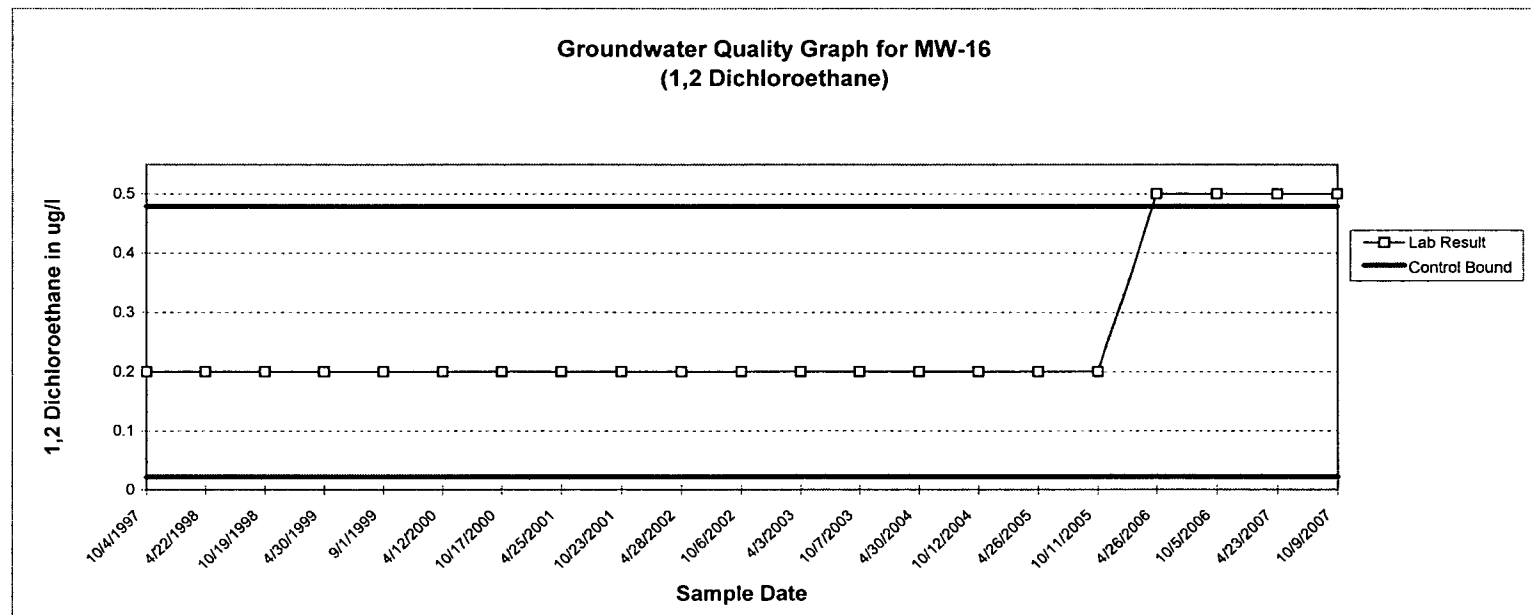
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



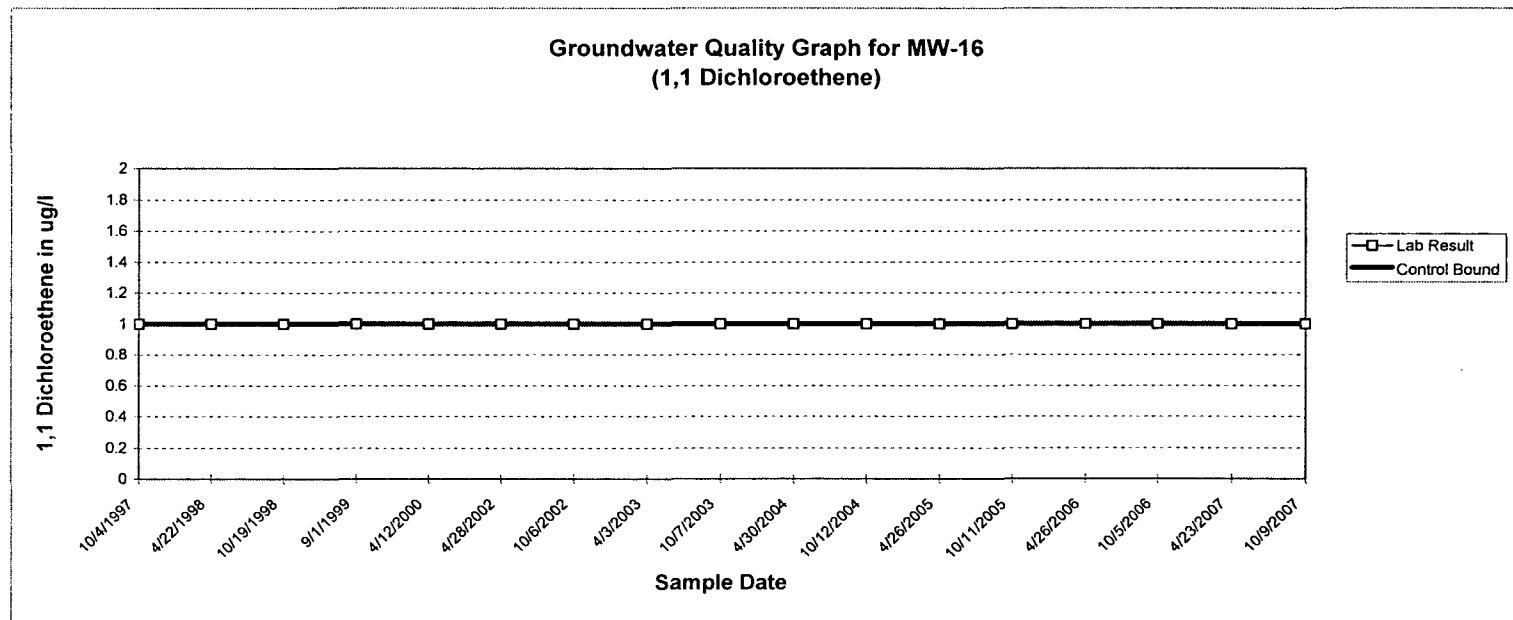
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



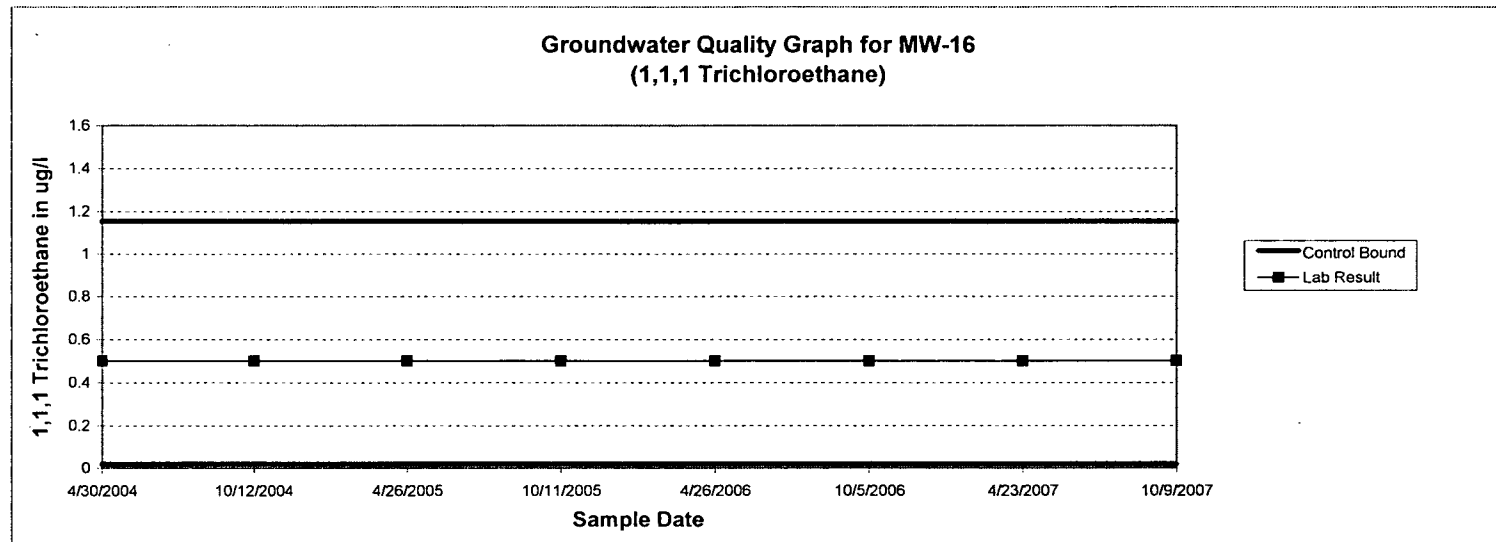
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



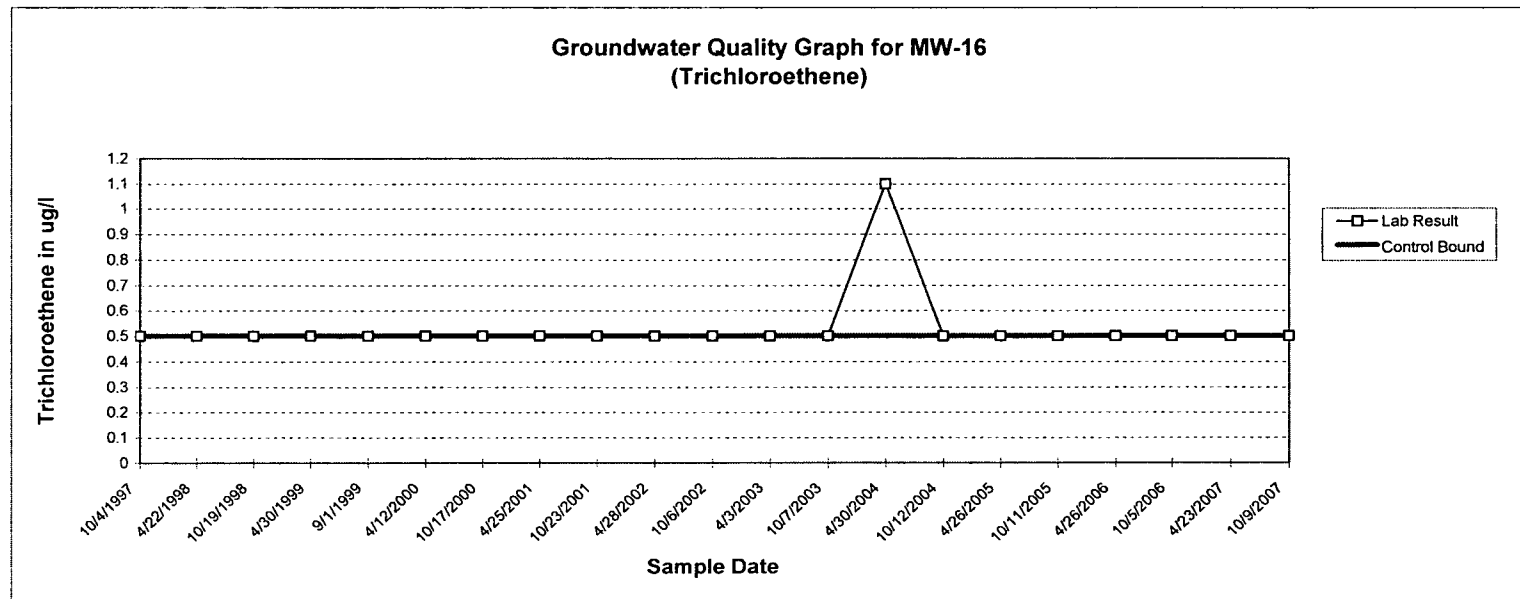
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



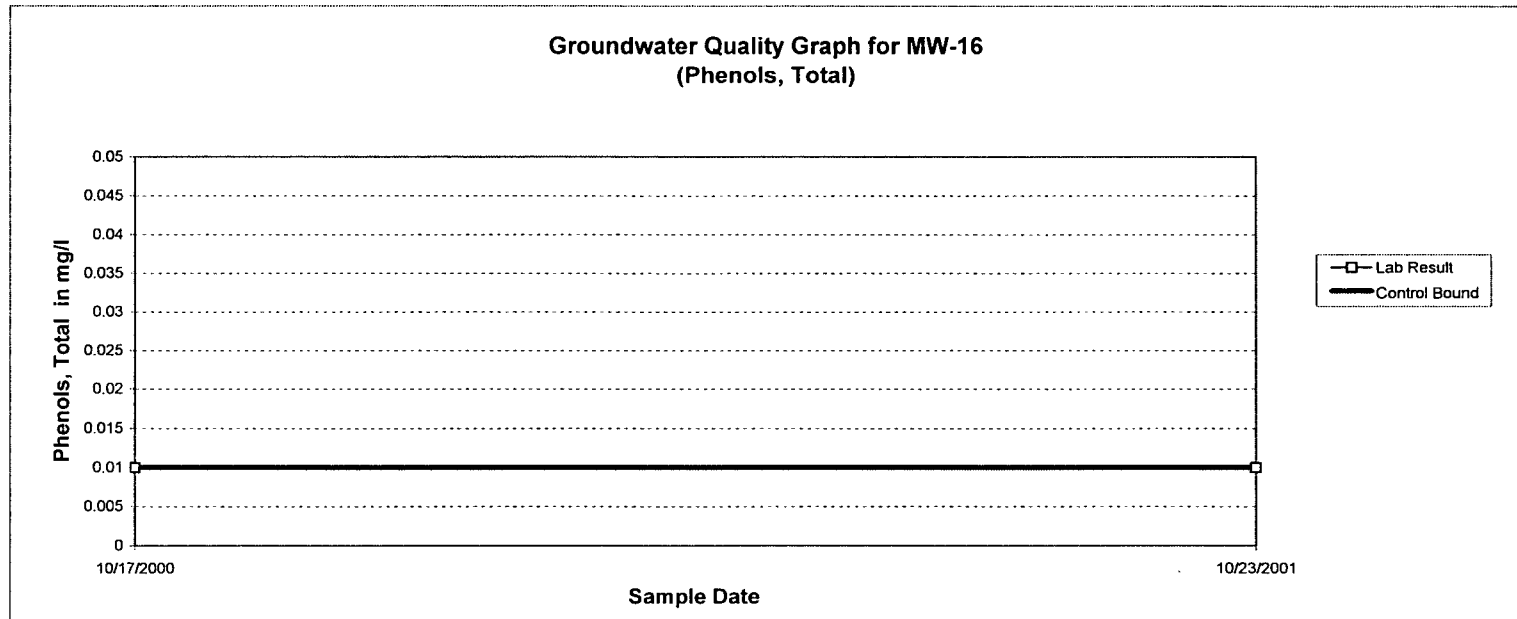
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



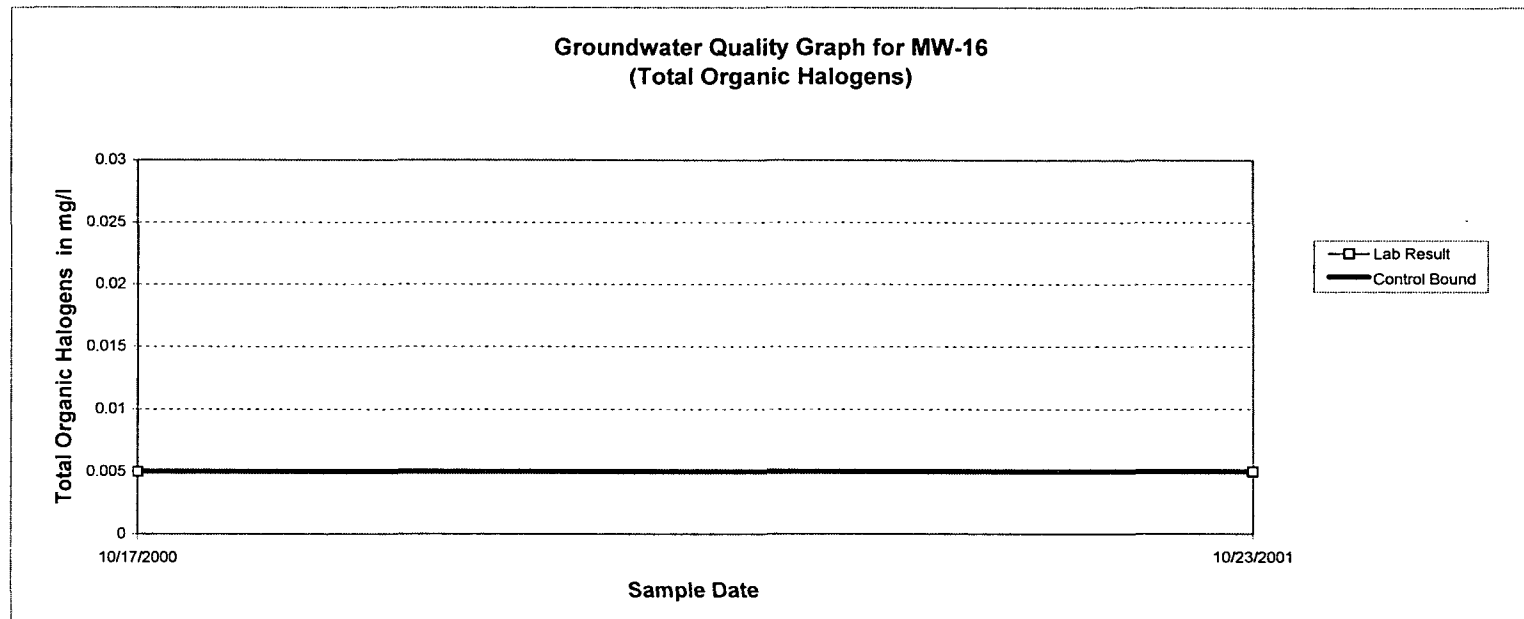
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



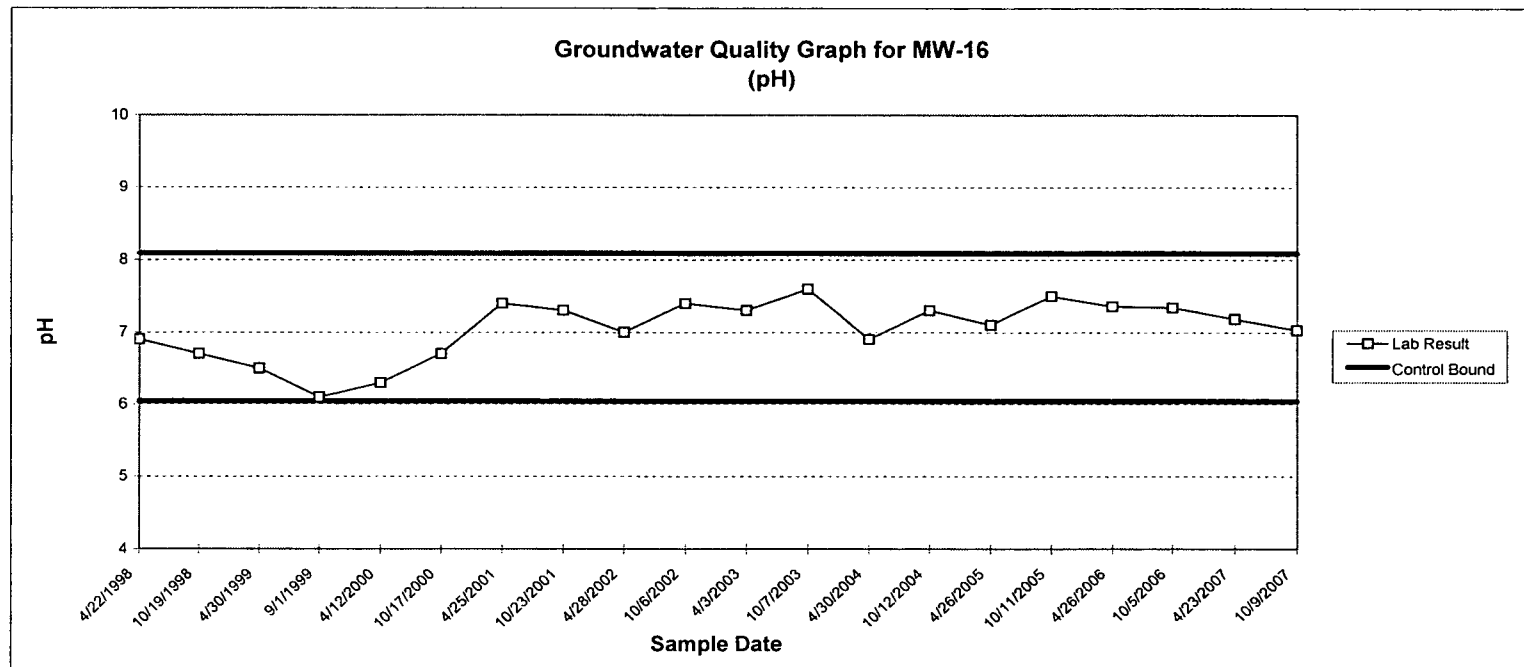
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative Limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

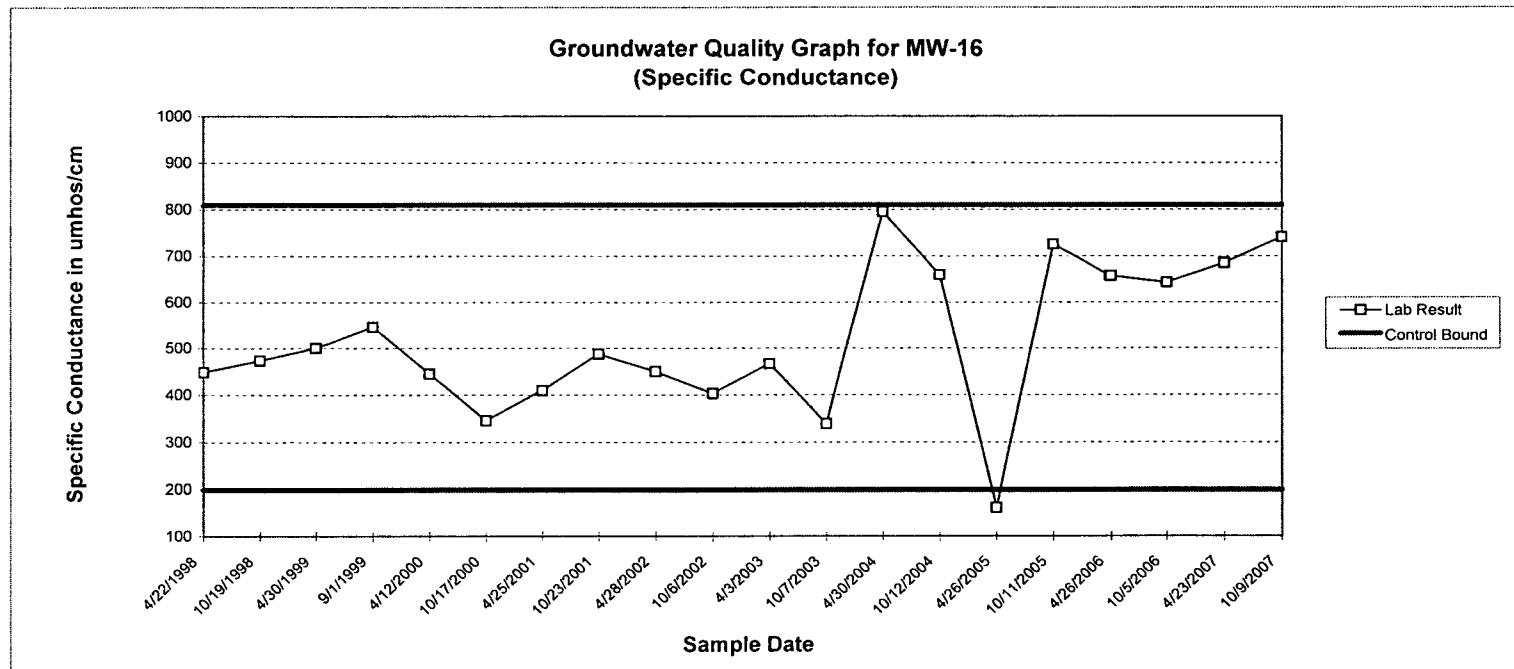
1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-16

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-15

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-15 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-15 Standard Deviation	MW-15 Mean	10/4/1997	4/27/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000	4/25/2001	10/24/2001	4/28/2002	10/6/2002
	via MW-17	via MW-17													
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	0.173	8.500	-	-	-	-	-	-	-	8.3	8.6	-	-
Chemical Oxygen Demand (mg/l)	9.169	0.000	6.640	6.333	-	-	-	-	-	-	-	14	2.5	-	-
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	-	-	-	-	-	-	0.1	0.1	-	-
Iron, dissolved (mg/l)	0.050	0.050	0.614	0.500	-	-	-	-	-	-	-	1.2	0.05	-	-
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.121	0.257	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.121	0.971	1.0	1.0	1.0	-	1.0	1.0	-	-	-	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.384	1.001	0.5	0.5	0.5	0.5	1.3	1.3	1.1	1.6	1.3	1.3	1.13
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	-	-	0.01	-	0.01	-	-
Total Organic Halogens (mg/l)	0.005	0.005	0.001	0.022	-	-	-	-	-	-	0.021	-	0.022	-	-
<b>Field Parameters</b>															
pH	8.1	6.0	0.299	6.488	-	6.5	6.5	6.2	6.0	6.0	5.9	6.7	6.7	6.4	6.7
Specific Conductance (µs/cm)	809	198	300.901	1015.750	-	824	824	879	1012	925	969	721	1075	903	886

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (MDL) for parameters not detected.
- 3) One-half of the quantitation limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the MDL was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-15

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-15 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE									
	Upper Control Limit	Lower Control Limit	MW-15 Standard Deviation	MW-15 Mean	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006	4/23/2007	10/9/2007
	via MW-17	via MW-17												
<b>Laboratory Parameters</b>														
Chloride (mg/l)	4.710	0.707	0.173	8.500	-	8.6	-	-	-	-	-	-	-	-
Chemical Oxygen Demand (mg/l)	9.169	0.000	6.640	6.333	-	2.5	-	-	-	-	-	-	-	-
Ammonia Nitrogen (mg/l)	0.100	0.100	0.000	0.100	-	0.1	-	-	-	-	-	-	-	-
Iron, dissolved (mg/l)	0.050	0.050	0.614	0.500	-	0.25	-	-	-	-	-	-	-	-
Benzene (µg/l)	0.250	0.250	0.000	0.250	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.121	0.257	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.121	0.971	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	0.384	1.001	1.5	1.28	0.5	1.07	1.15	1.27	1.11	1.12	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	-	-	-	-	-	-
Total Organic Halogens (mg/l)	0.005	0.005	0.001	0.022	-	-	-	-	-	-	-	-	-	-
<b>Field Parameters</b>														
pH	8.08	6.04	0.3	6.5	6.8	6.5	6.4	6.8	6.5	6.7	6.7	6.8	6.86	6.1
Specific Conductance (µs/cm)	809.0	198.0	301	1016	994	824	1475	167	1297	1398	1224	1322	1237	1359

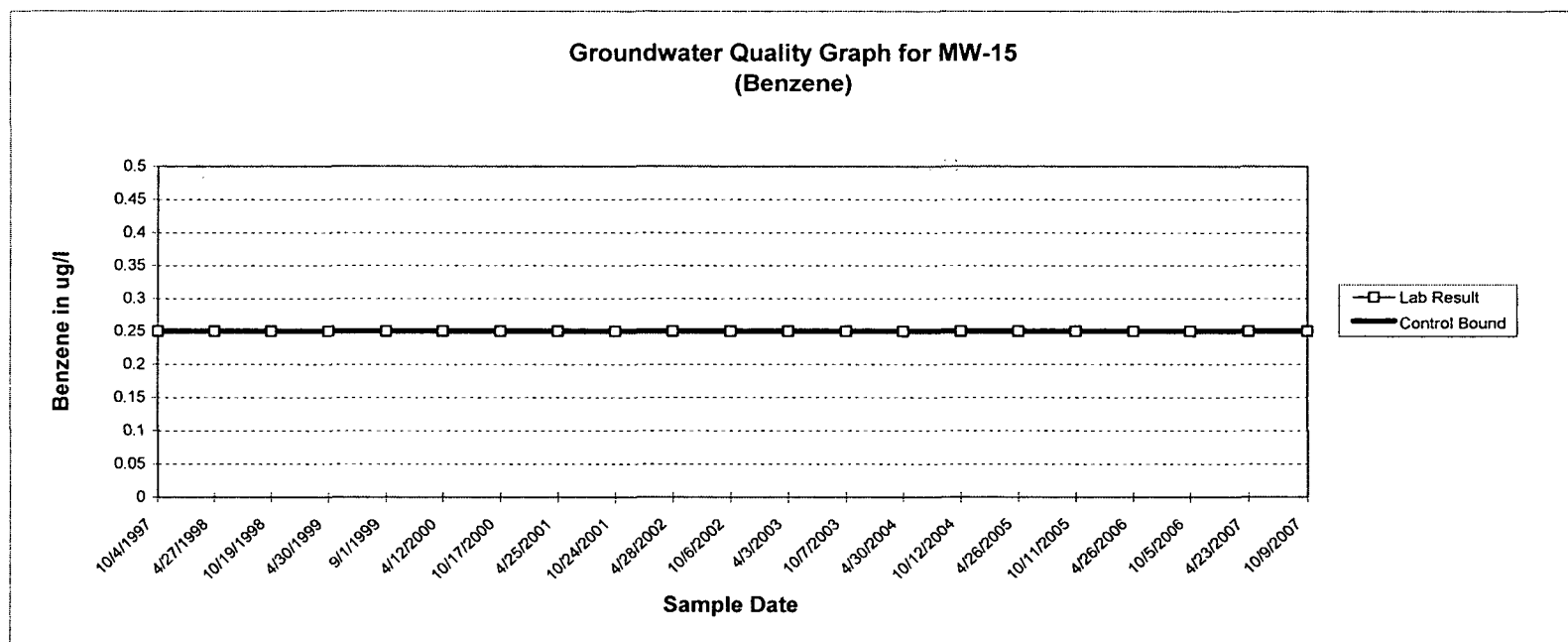
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (MDL) for parameters not detected.
- 3) One-half of the quantitation limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the MDL was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



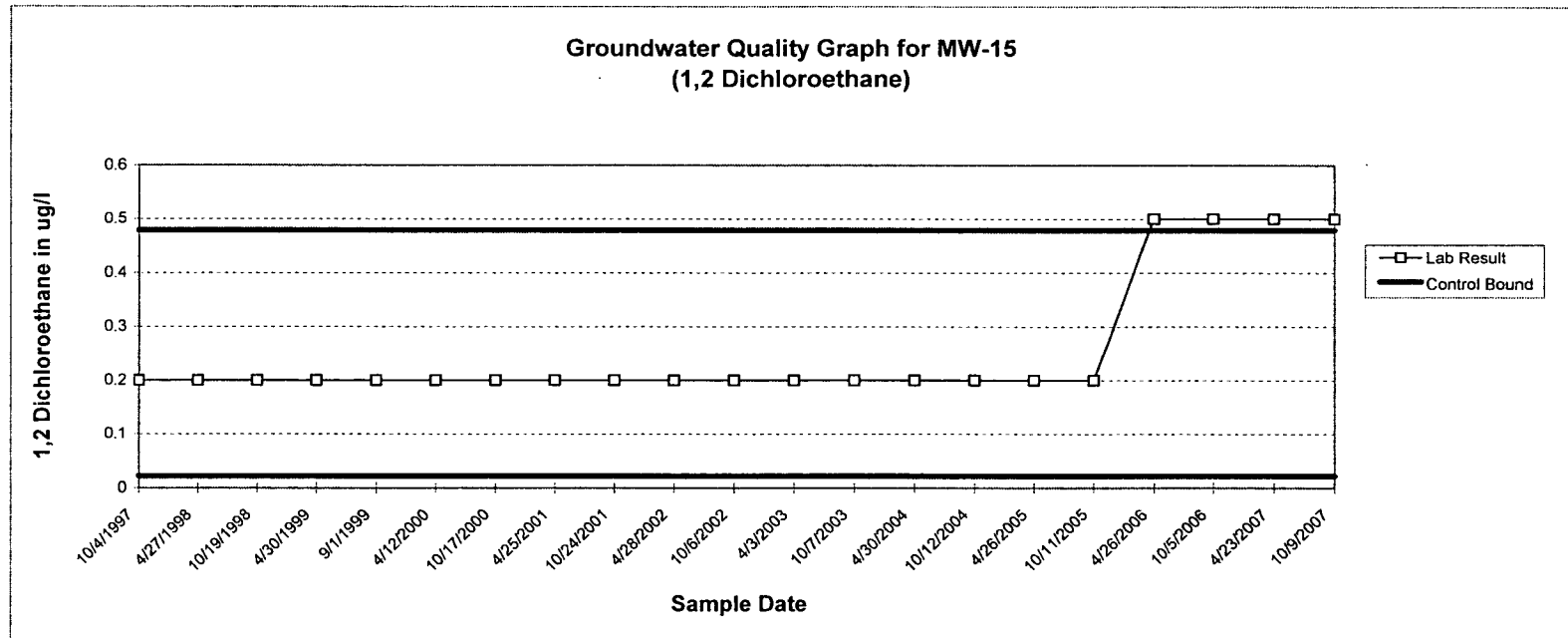
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitation limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



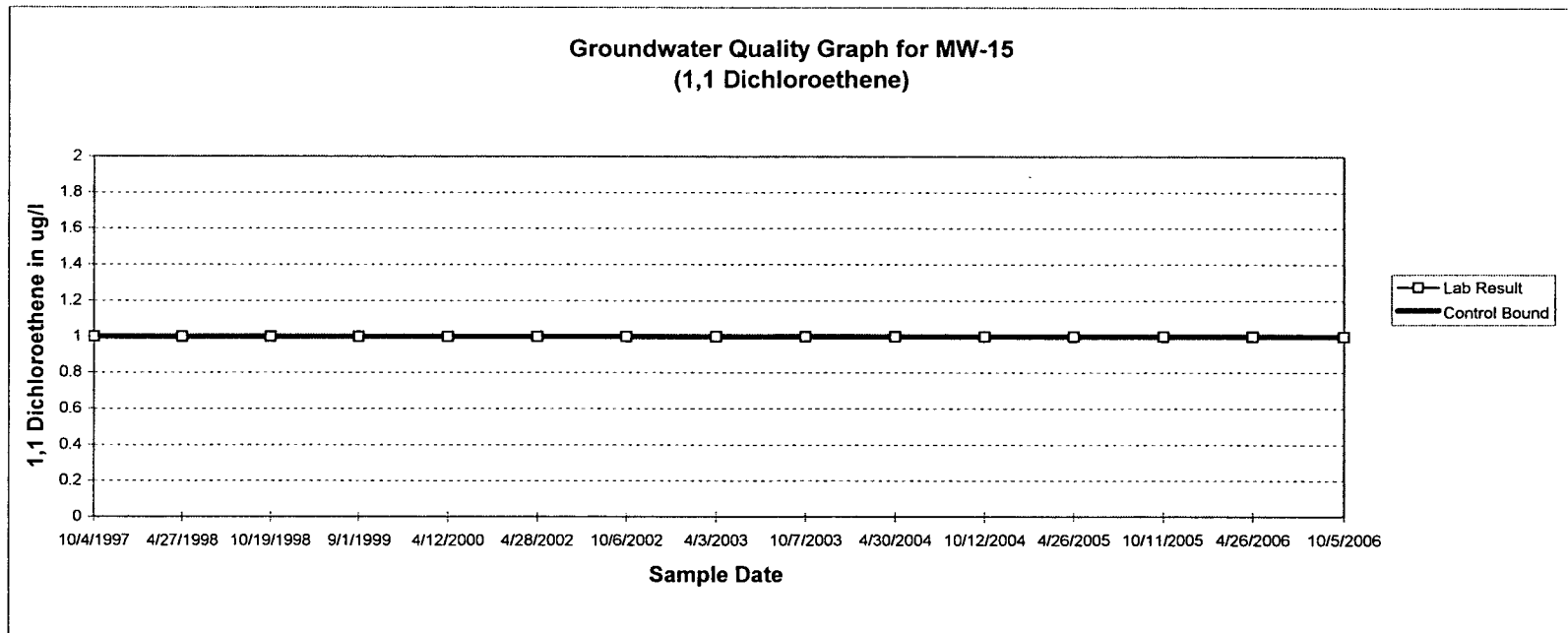
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitation limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



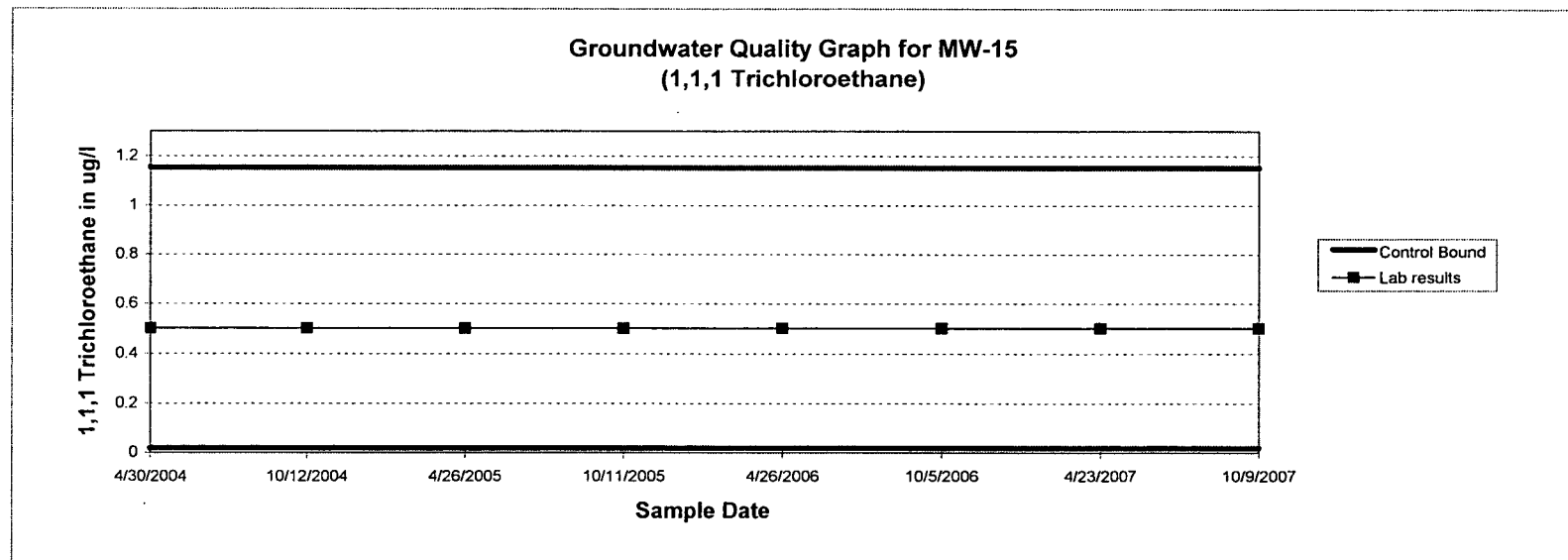
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitation limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



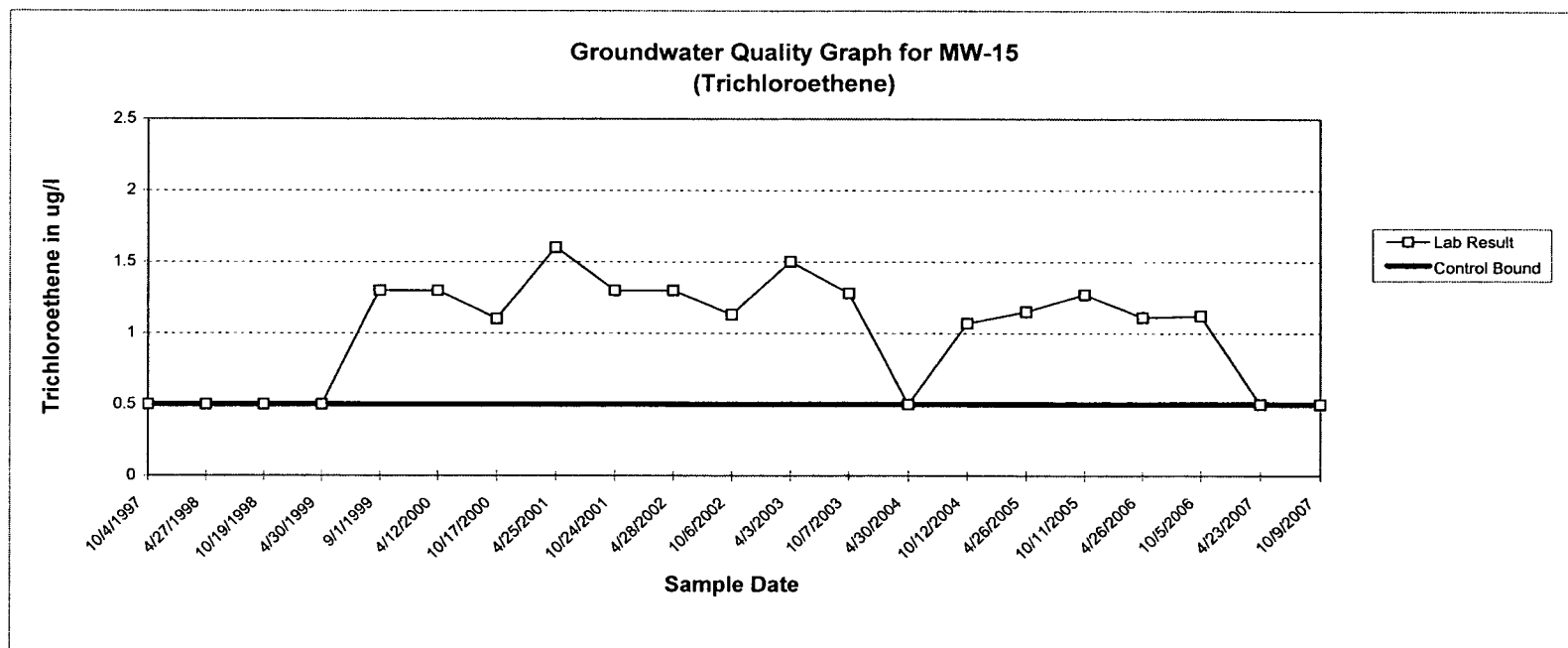
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitation limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-15

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



#### NOTE:

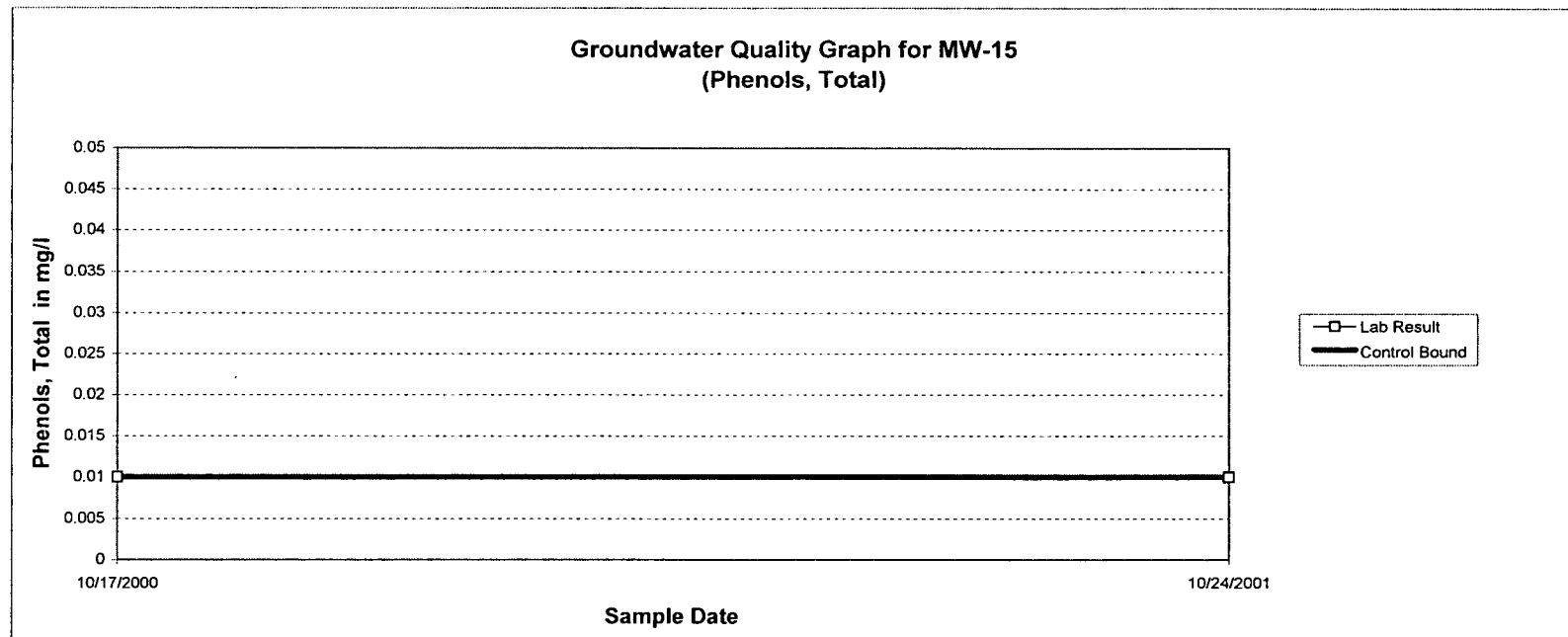
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitation limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



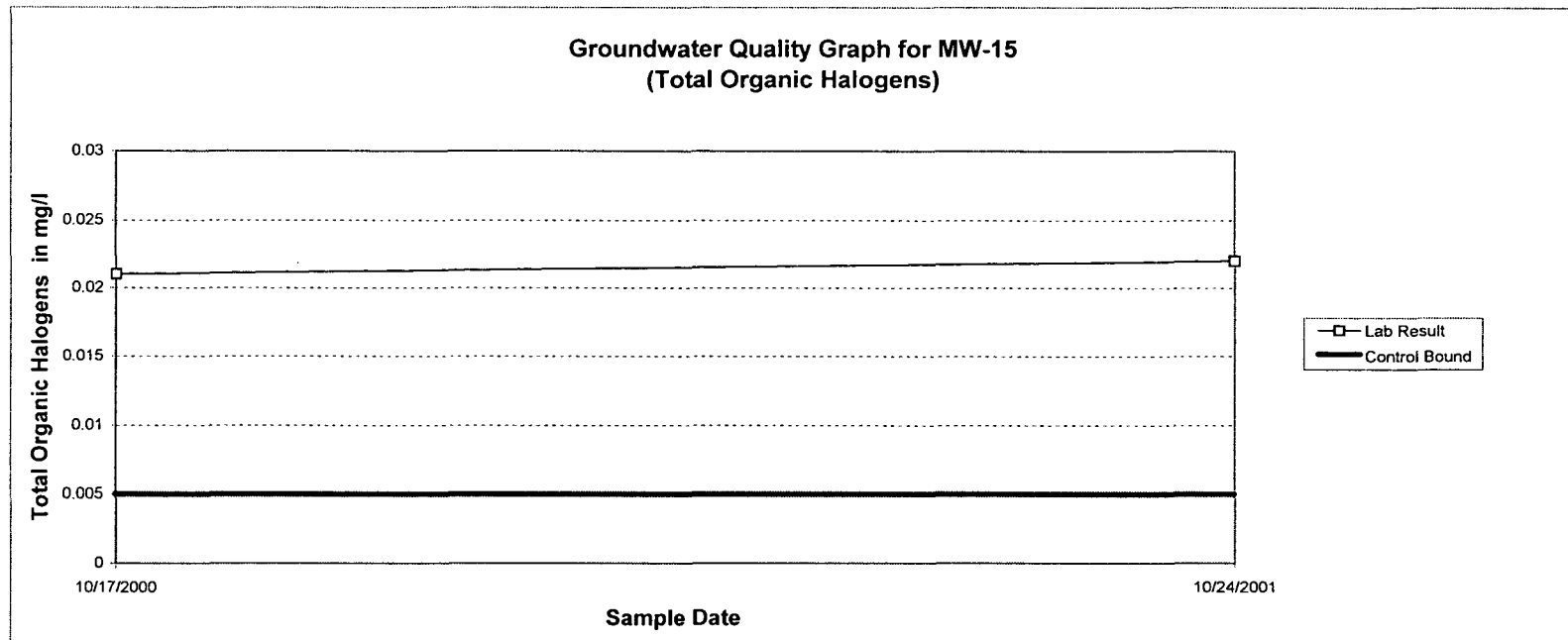
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitation limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



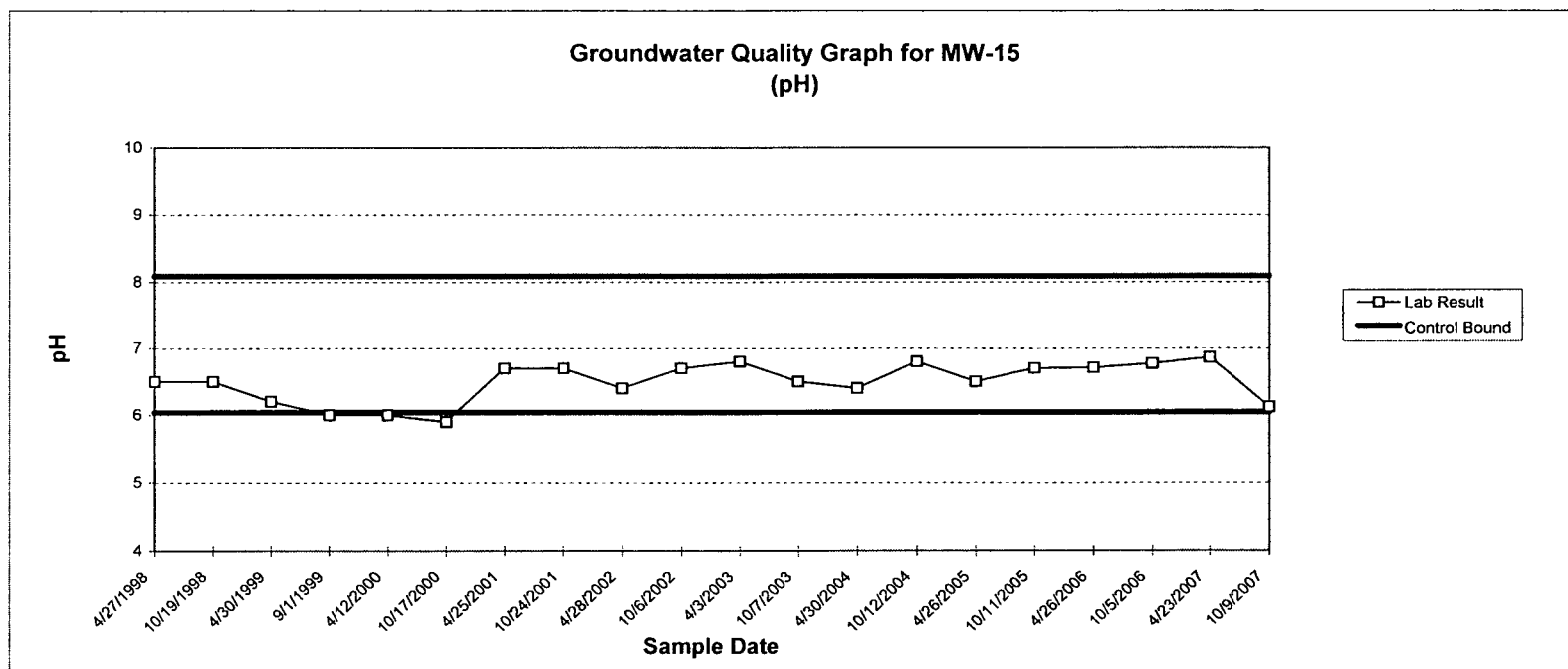
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



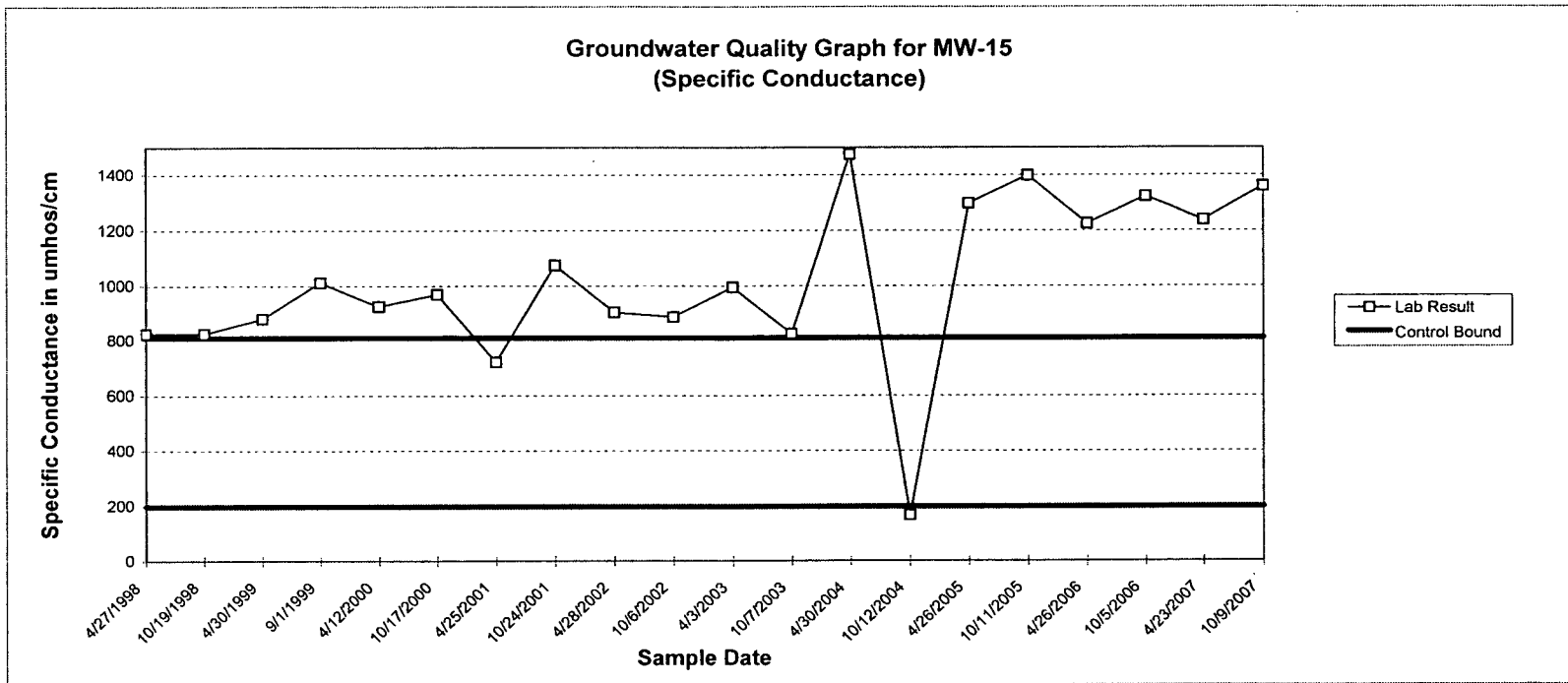
NOTE:

1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-15

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

## ANALYSIS SHEET MW-14

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-14 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-14 Standard Deviation	MW-14 Mean											
	via MW-17	via MW-17			7/12/1996	10/10/1996	1/21/1997	4/17/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	16.093	28.340	12	14	13	17	15	18.5	19	20	18	17.7	17
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.204	5.132	24	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.024	0.105	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.018	0.054	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.489	0.368	0.5	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.212	0.338	0.5	0.2	0.2	0.2	0.41	0.2	0.54	1.1	0.2	0.2	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.150	0.952	0.5	0.5	1.0	1.0	1.0	1.0	1.0	-	1.0	1.0	-
1,1,1-Trichloroethane (µg/l)	1.152	0.019	1.170	1.451	0.5	4.2	3.3	0.5	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.915	1.142	3.1	0.5	1.2	1.5	1.3	1.1	1.6	2.1	1.4	1.7	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	0.01	-	0.01	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.013	0.033	-	-	-	-	0.028	-	0.005	-	0.052	-	0.022
<b>Field Parameters</b>															
pH	8.1	6.0	0.327	6.660	6.6	6.7	6.5	6.3	6.5	6.5	6.4	6.1	6.1	6.0	6.3
Specific Conductance (µs/cm)	809	198	237.559	841.920	528	690	582	698	682	764	831	913	900	914	808

## NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (MDL) for parameters not detected.
- 3) One-half of the MDL was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the MDL was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-14** (Down-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-14 Standard Deviation	MW-14 Mean	4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	16.093	28.340	16.8	22.6	27.9	23.1	30.9	24.8	43.4	80.6	53.3	43.6	38.1	38.4
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.204	5.132	2.5	2.5	2.5	15	7.7	10	2.5	6.0	5.3	2.5	2.5	12
Ammonia Nitrogen (mg/l)	0.100	0.100	0.024	0.105	0.1	0.1	0.1	0.1	0.1	0.1	0.22	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.018	0.054	0.14	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.489	0.368	0.25	0.25	0.25	0.25	0.25	0.25	2.69	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.212	0.338	0.4	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.150	0.952	-	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (µg/l)	1.152	0.019	1.170	1.451	-	-	-	-	-	-	0.5	1.79	1.42	1.29	0.5	1.13
Trichloroethene (µg/l)	0.500	0.500	0.915	1.142	1.1	1.1	1.1	0.5	0.5	0.5	4.25	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	0.01	0.01	0.01	-	0.01	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.013	0.033	-	0.041	0.038	0.025	-	0.023	0.030	-	0.048	-	0.0391	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.7	7.0	6.8	6.5	7	7	7.2	7	6.9	6.8	6.9	6.8	6.9
Specific Conductance (µs/cm)	809	198	238	842	941	889	742	757	930	1050	930	419	286	1237	1055	1145

**NOTE:**

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory Quantitative limit for parameters not detected.
- 3) One-half of the Quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-14

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-14 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-14 Standard Deviation	MW-14 Mean												
	via MW-17	via MW-17			4/23/2007	10/9/2007										
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	16.093	28.340	39.9	43.9										
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.204	5.132	2.5	5.8										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.024	0.105	0.1	0.1										
Iron, dissolved (mg/l)	0.050	0.050	0.018	0.054	0.05	0.05										
Benzene (µg/l)	0.250	0.250	0.489	0.368	0.25	0.25										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.212	0.338	0.5	0.5										
1,1-Dichloroethene (µg/l)	1.000	1.000	0.150	0.952	1.0	1.0										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	1.170	1.451	1.24	1.04										
Trichloroethene (µg/l)	0.500	0.500	0.915	1.142	0.5	0.5										
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	0.01	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.013	0.033	0.0444	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.7	6.9	6.76										
Specific Conductance (µs/cm)	809	198	238	842	1146	1211										

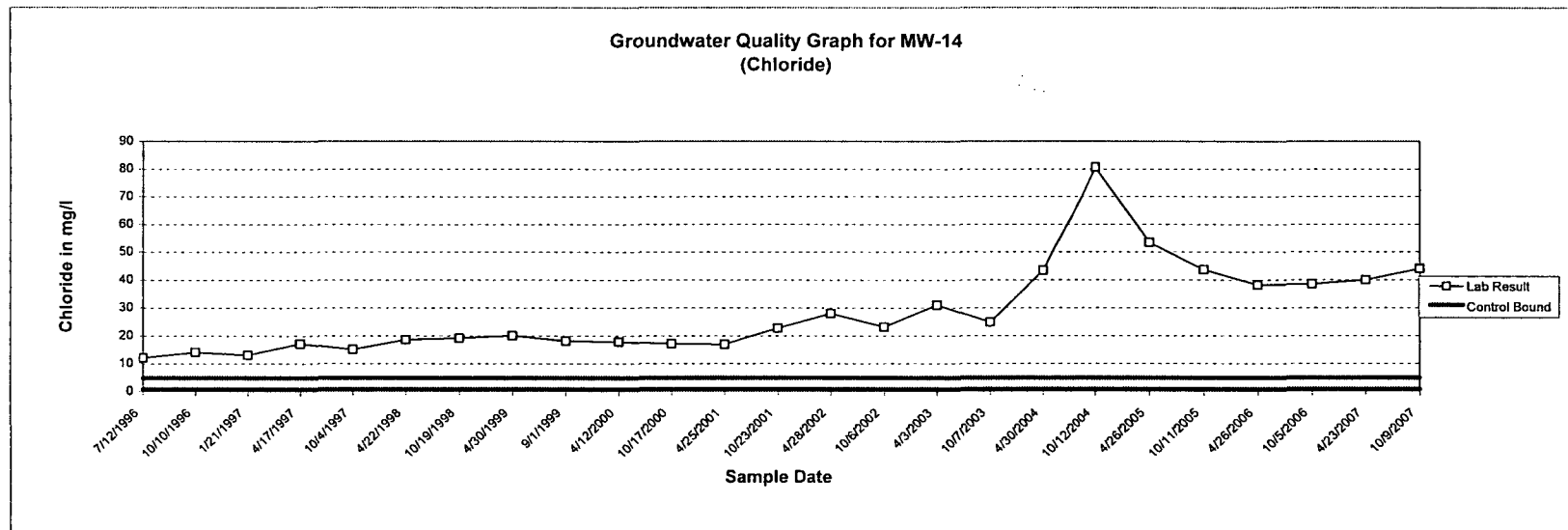
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory Quantitative limit for parameters not detected.
- 3) One-half of the Quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the Quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-14

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

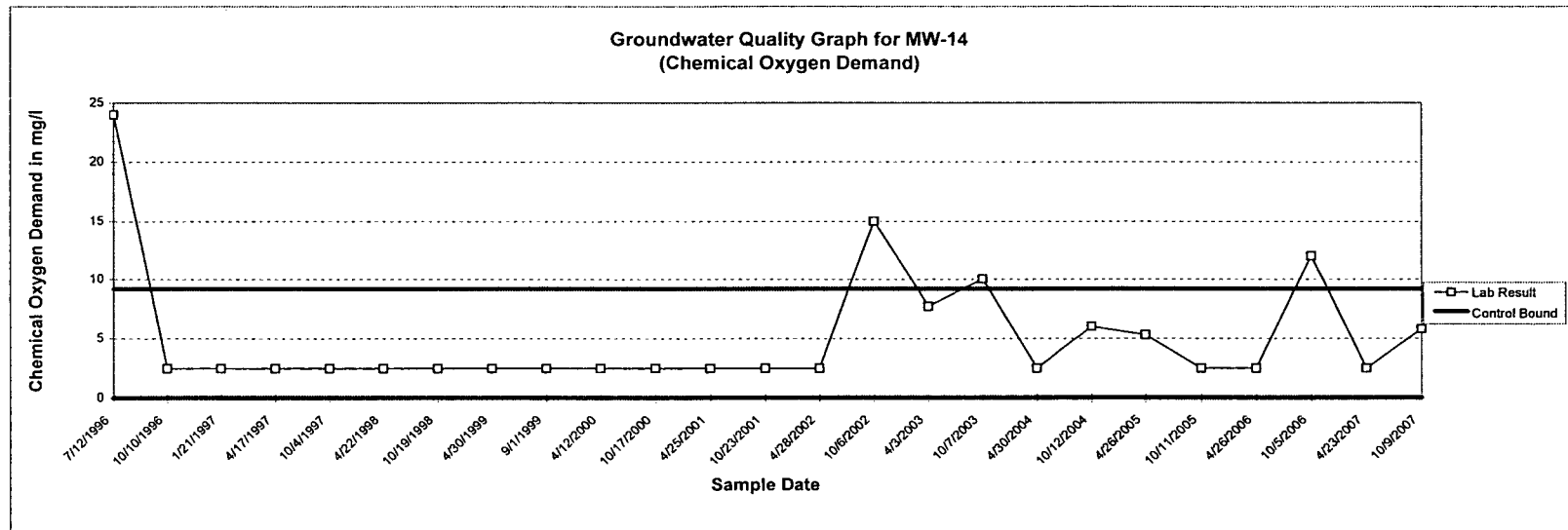
1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



# ANALYSIS SHEET MW-14

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

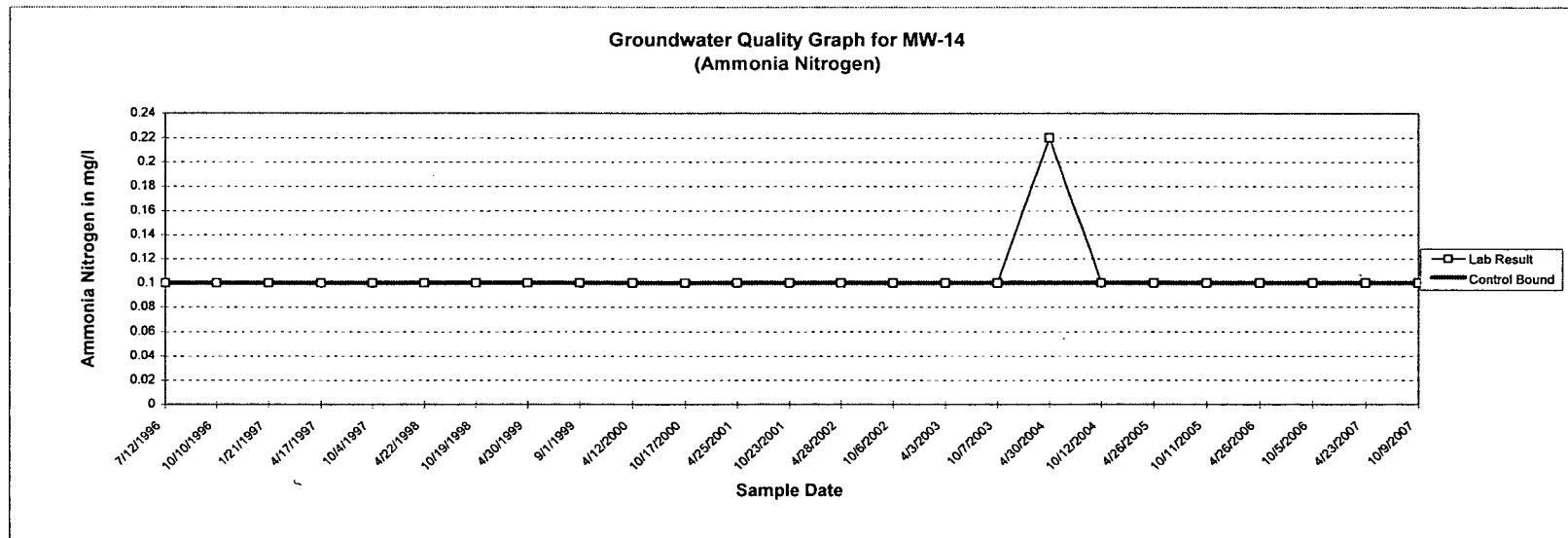


**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

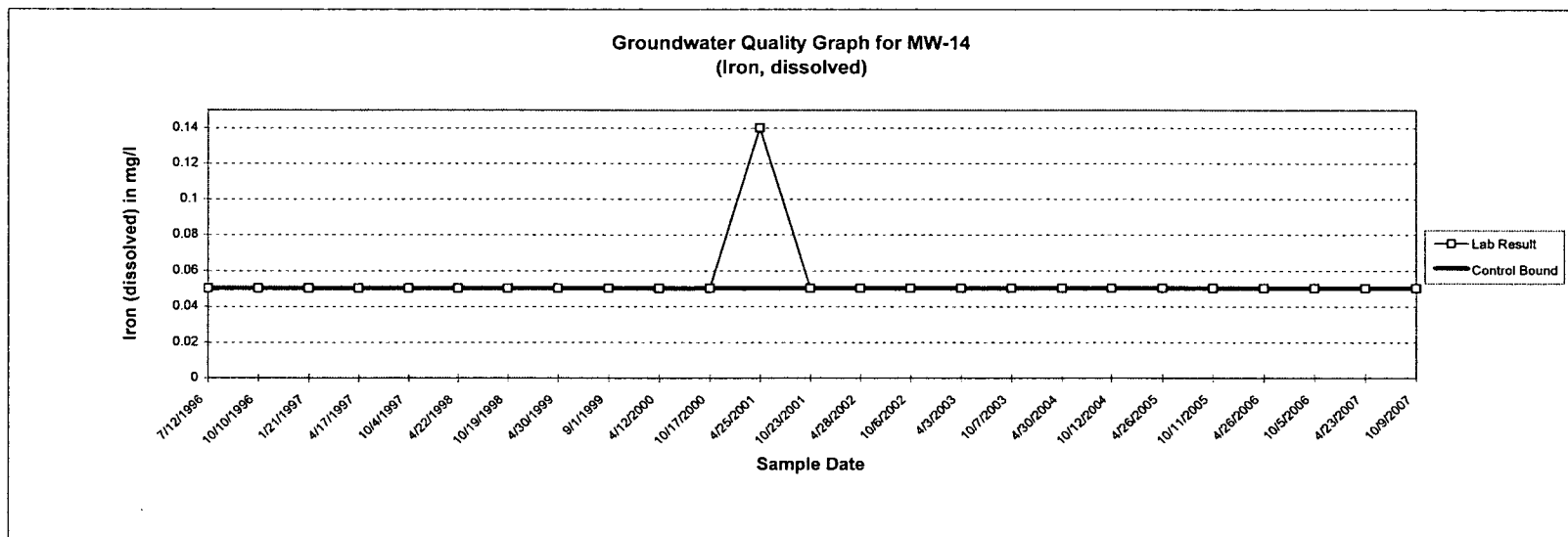


**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

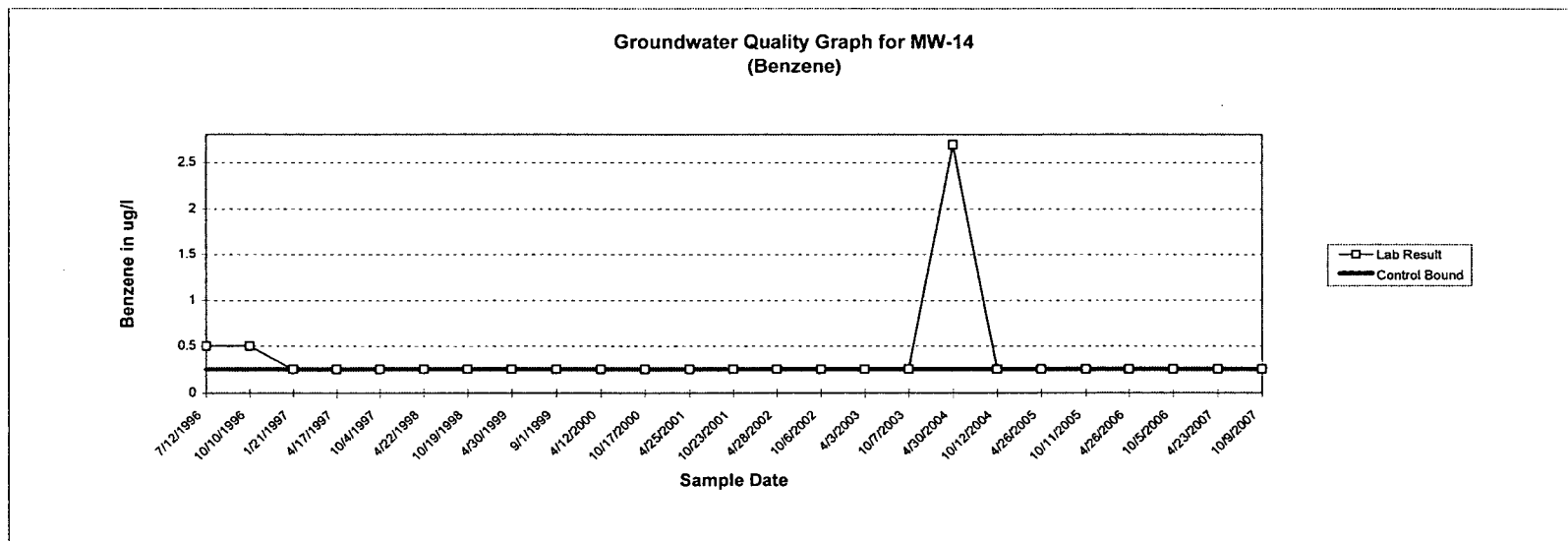


**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



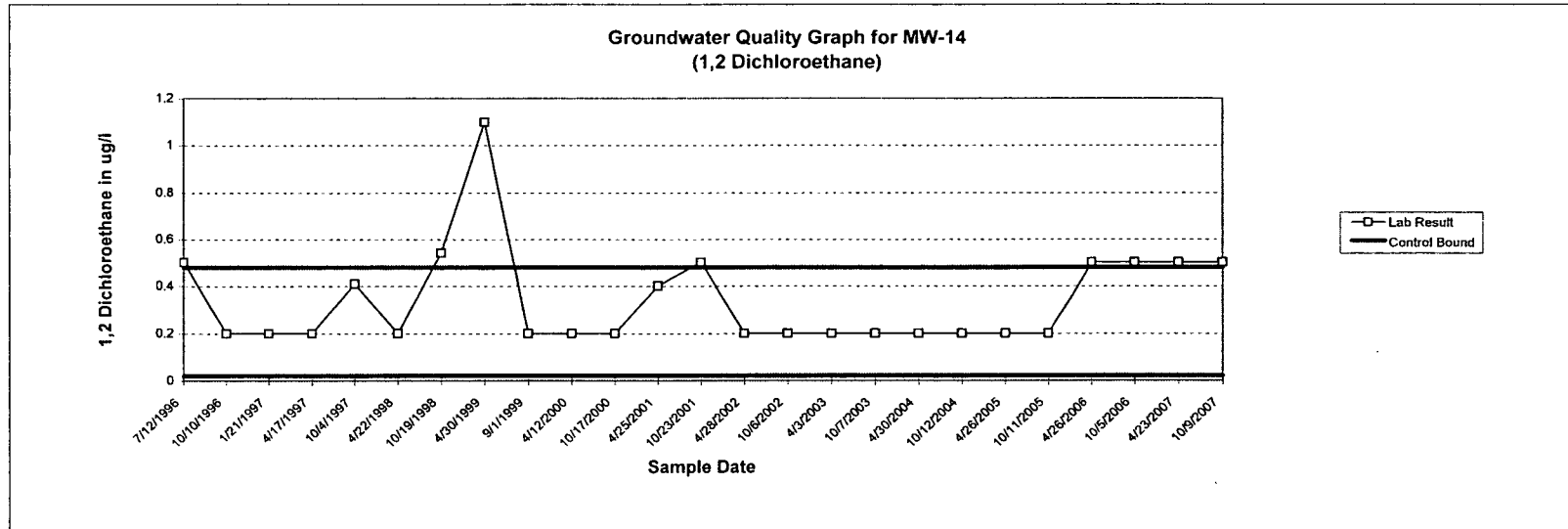
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-14

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



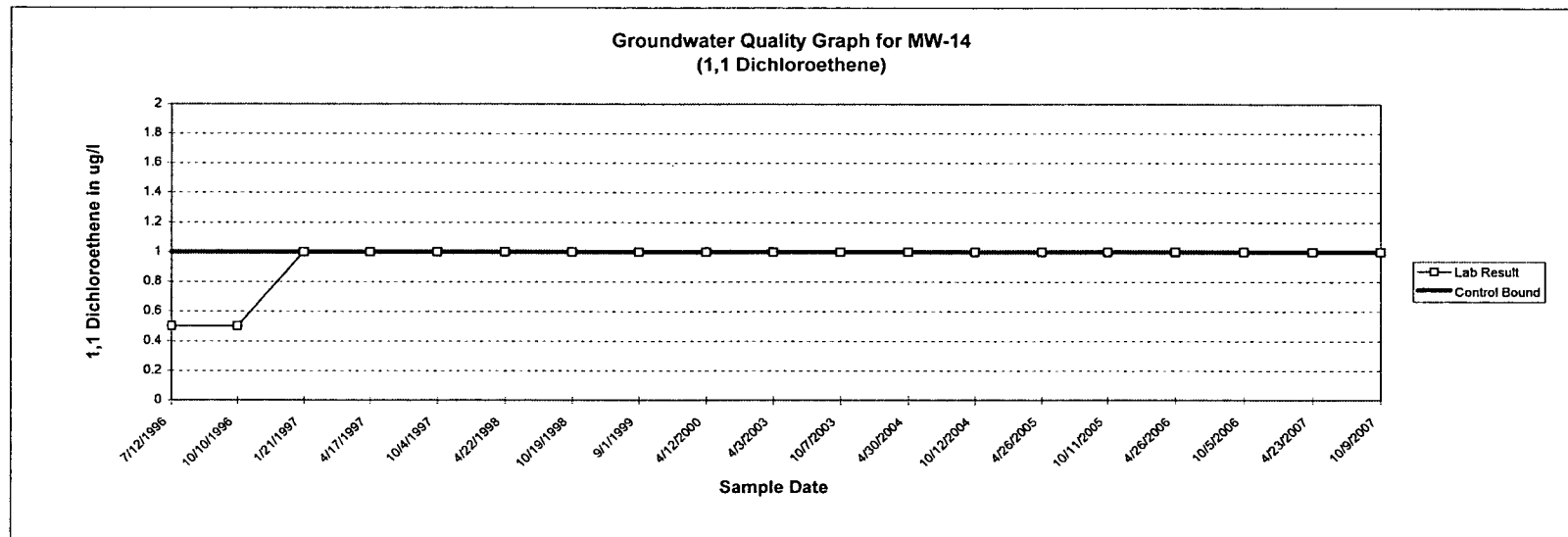
### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-14

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

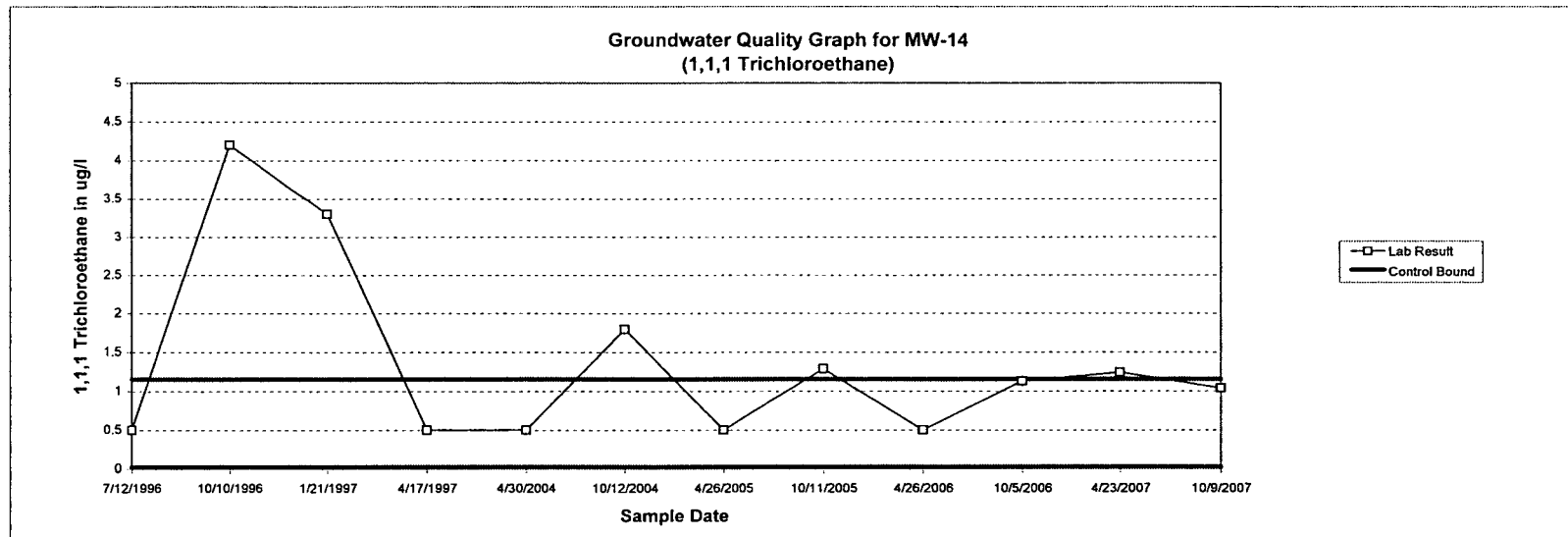


### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



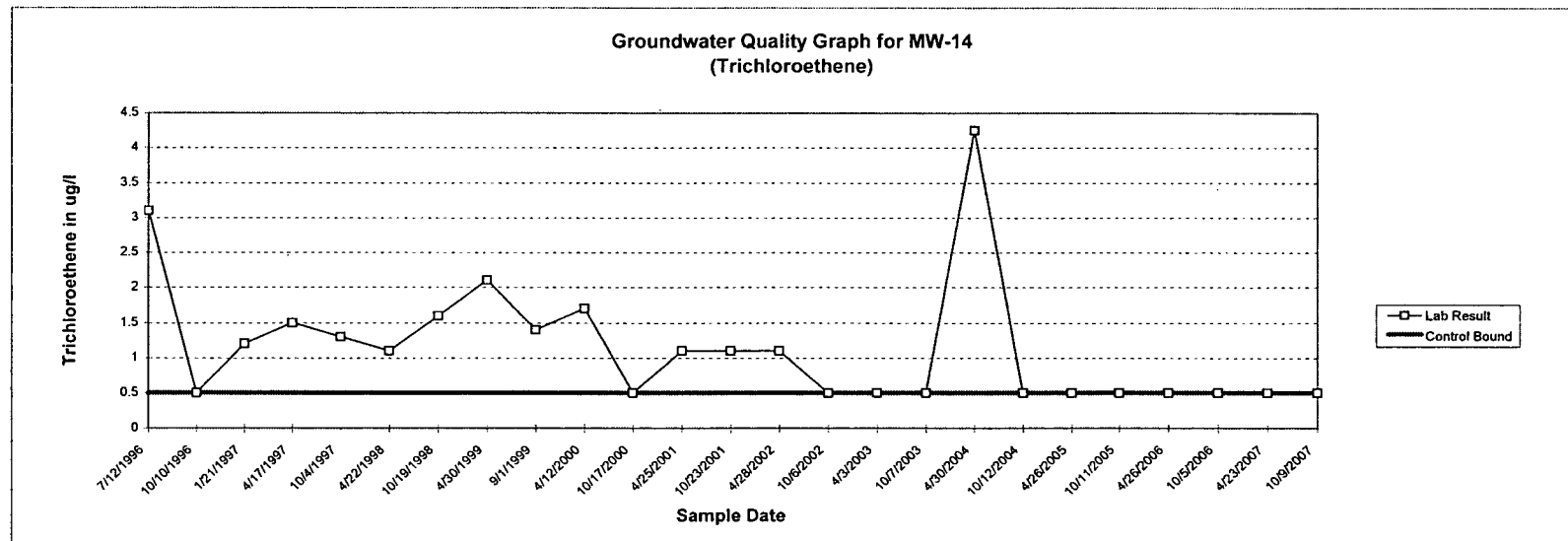
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the Quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-14

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



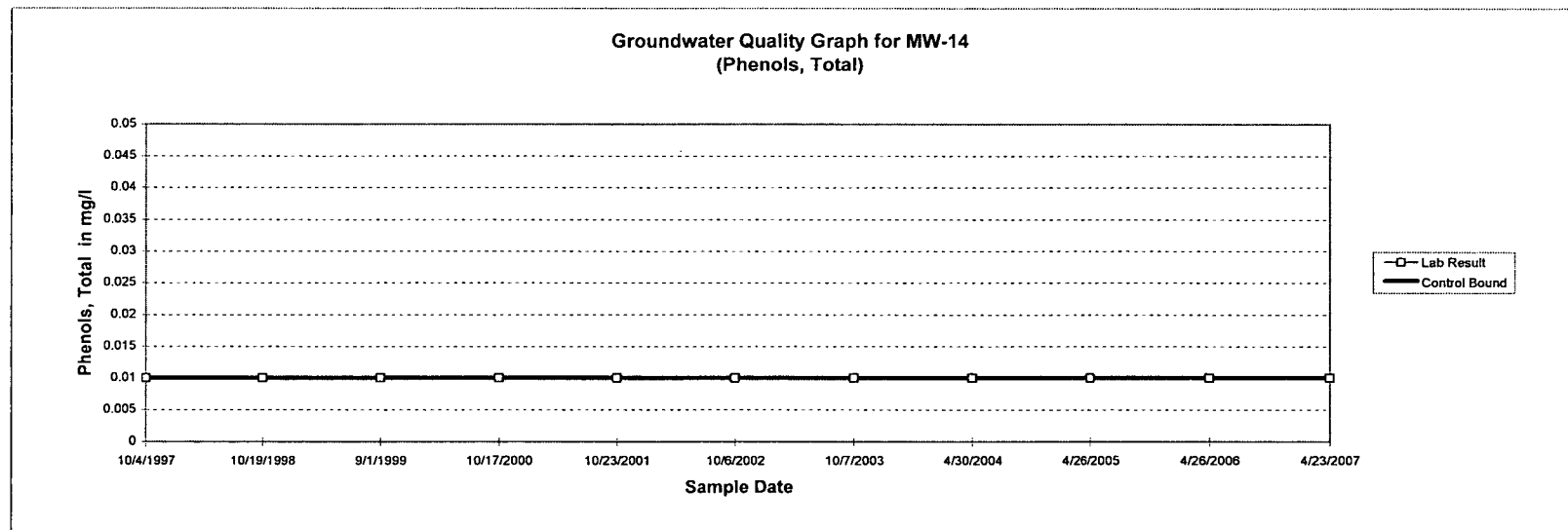
#### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



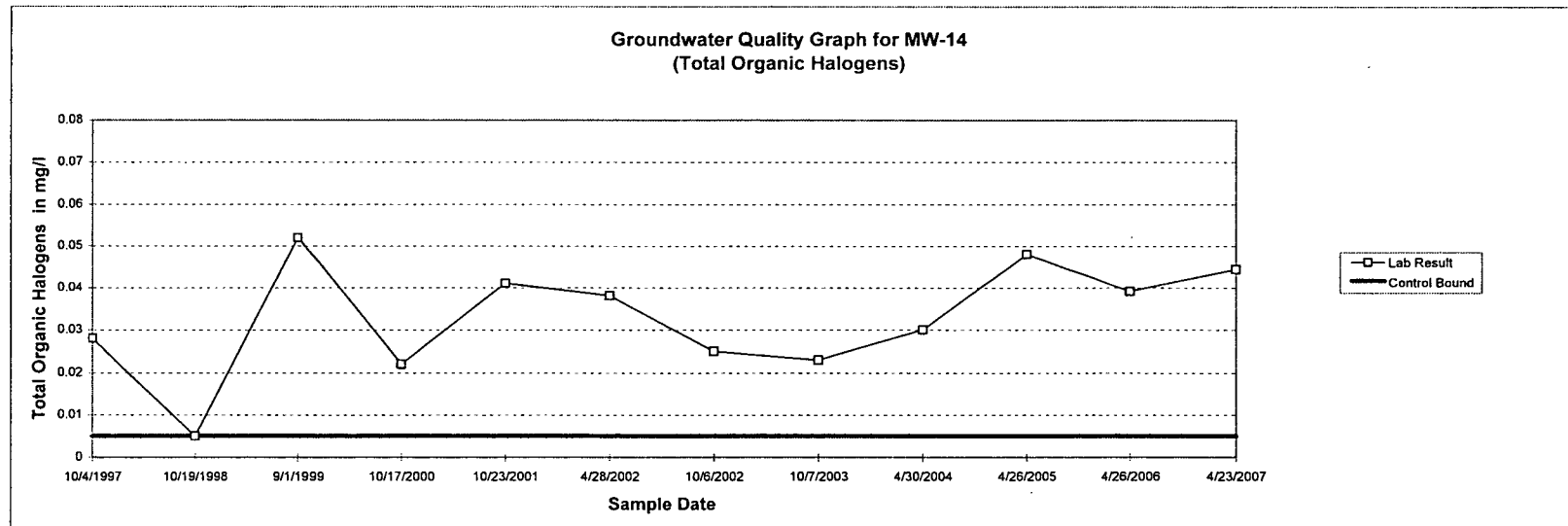
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

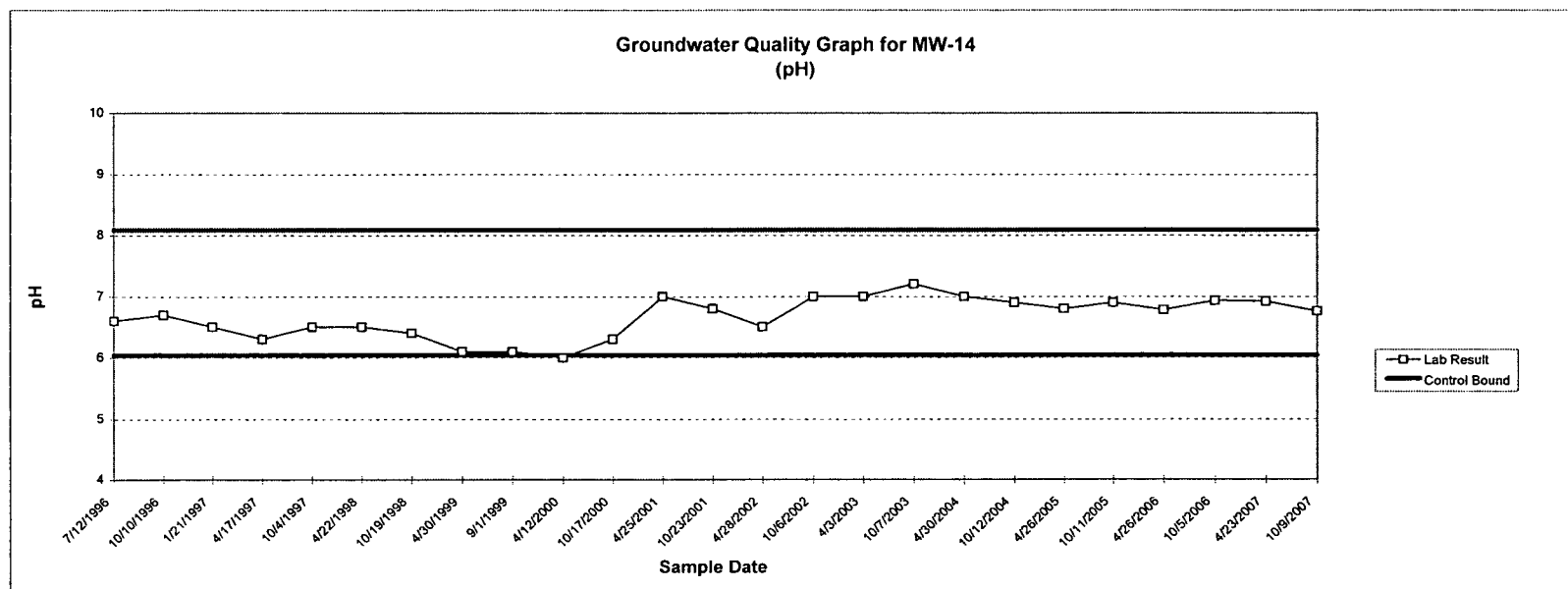


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the Quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

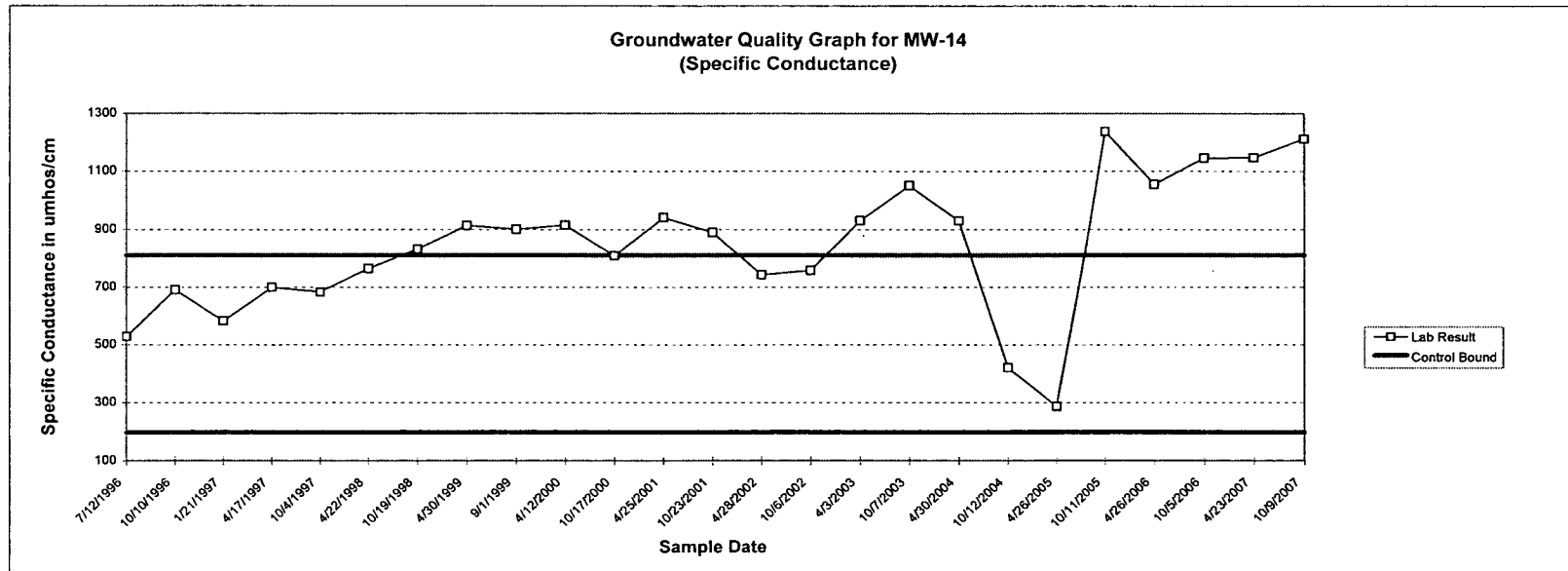


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-14  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

## ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-13 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-13 Standard Deviation	MW-13 Mean											
	via MW-17	via MW-17			7/12/1996	10/11/1996	1/21/1997	4/17/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/3/1999	4/12/2000	10/17/2000
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	2.807	17.332	12	13	14	18	18	15.6	18	17	18	17.5	19.9
Chemical Oxygen Demand (mg/l)	9.169	0.000	12.416	8.060	63	2.5	7.5	2.5	2.5	2.5	2.5	2.5	2.5	22	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.020	0.104	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.931	0.628	0.9	3.4	3.6	0.05	0.49	0.20	0.05	0.05	0.72	1.05	0.05
Benzene (µg/l)	0.250	0.250	0.110	0.306	0.5	0.5	0.25	0.25	-	-	-	-	-	-	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.100	0.233	0.5	0.2	0.2	0.2	-	-	-	-	-	-	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.258	0.833	0.5	0.5	1.0	1.0	-	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.5	0.5	0.5	0.5	-	-	-	-	-	-	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	0.01	-	0.01	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.038	0.018	-	-	-	-	0.005	-	0.005	-	0.138	-	0.005
<b>Field Parameters</b>															
pH	8.1	6.0	0.430	6.793	6.5	6.8	6.8	6.6	6.4	6.5	6.6	6.4	6.1	6.2	5.8
Specific Conductance (µs/cm)	809	198	140.123	596.480	390	475	479	645	548	584	525	605	558	517	536

## NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (MDL) for parameters not detected.
- 3) One-half of the MDL was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the MDL was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

## ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-13 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-13 Standard Deviation	MW-13 Mean												
	via MW-17	via MW-17			4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	2.807	17.332	15.1	16.7	16.6	16.5	24.8	19.7	19.3	18.4	11.6	19.0	18.8	18.2
Chemical Oxygen Demand (mg/l)	9.169	0.000	12.416	8.060	6.3	2.5	8.2	8.4	10	2.5	12	2.5	2.5	2.5	6.3	13.1
Ammonia Nitrogen (mg/l)	0.100	0.100	0.020	0.104	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.931	0.628	0.16	0.05	0.71	0.85	0.05	0.88	0.05	0.05	0.15	0.34	0.56	0.934
Benzene (µg/l)	0.250	0.250	0.110	0.306	0.25	0.25	-	-	0.25	0.25	-	-	-	-	-	-
1,2-Dichloroethane (µg/l)	0.478	0.022	0.100	0.233	0.2	0.2	-	-	0.2	0.2	-	-	-	-	-	-
1,1-Dichloroethene (µg/l)	1.000	1.000	0.258	0.833	-	-	-	-	1.0	1.0	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.5	0.5	-	-	0.5	0.5	-	-	-	-	-	-
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.038	0.018	-	0.005	0.005	0.005	0.023	-	0.005	-	0.013	-	0.005	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.4	6.8	6.8	7.1	6.7	7.3	7.0	7.5	6.6	7.2	7.0	7.1	7.3	7.11
Specific Conductance (µs/cm)	809	198	140	596	648	530	423	499	930	646	792	346	608	764	641	687

- NOTE:
- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
  - 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
  - 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
  - 4) One-half of the quantitative limit was plotted for non-detectable parameters.
  - 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
  - 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-13

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-13 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

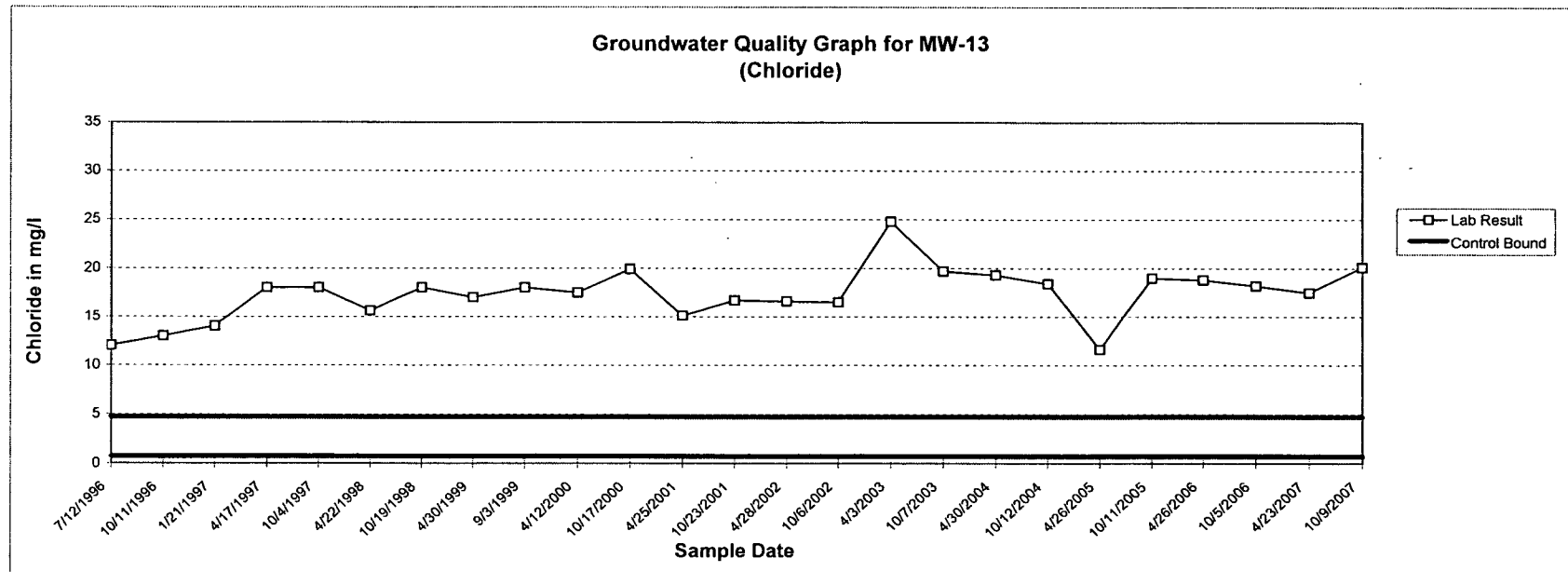
SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-13 Standard Deviation	MW-13 Mean	4/23/2007	10/9/2007										
	via MW-17	via MW-17														
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	2.807	17.332	17.5	20.1										
Chemical Oxygen Demand (mg/l)	9.169	0.000	12.416	8.060	9.7	2.5										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.020	0.104	0.1	0.1										
Iron, dissolved (mg/l)	0.050	0.050	0.931	0.628	0.178	0.177										
Benzene (µg/l)	0.250	0.250	0.110	0.306	-	-										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.100	0.233	-	-										
1,1-Dichloroethene (µg/l)	1.000	1.000	0.258	0.833	-	-										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-										
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	-	-										
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	0.01	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.038	0.018	0.005	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.4	6.8	7.48	6.99										
Specific Conductance (µs/cm)	809	198	140	596	668	868										

- NOTE:
- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
  - 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
  - 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
  - 4) One-half of the quantitative limit was plotted for non-detectable parameters.
  - 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
  - 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

**ANALYSIS SHEET MW-13**  
**PLYMOUTH COUNTY LANDFILL**  
**GROUNDWATER SAMPLING AND ANALYSIS**  
**TERRACON PROJECT NO. 40905033**

**SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET**



**NOTE:**

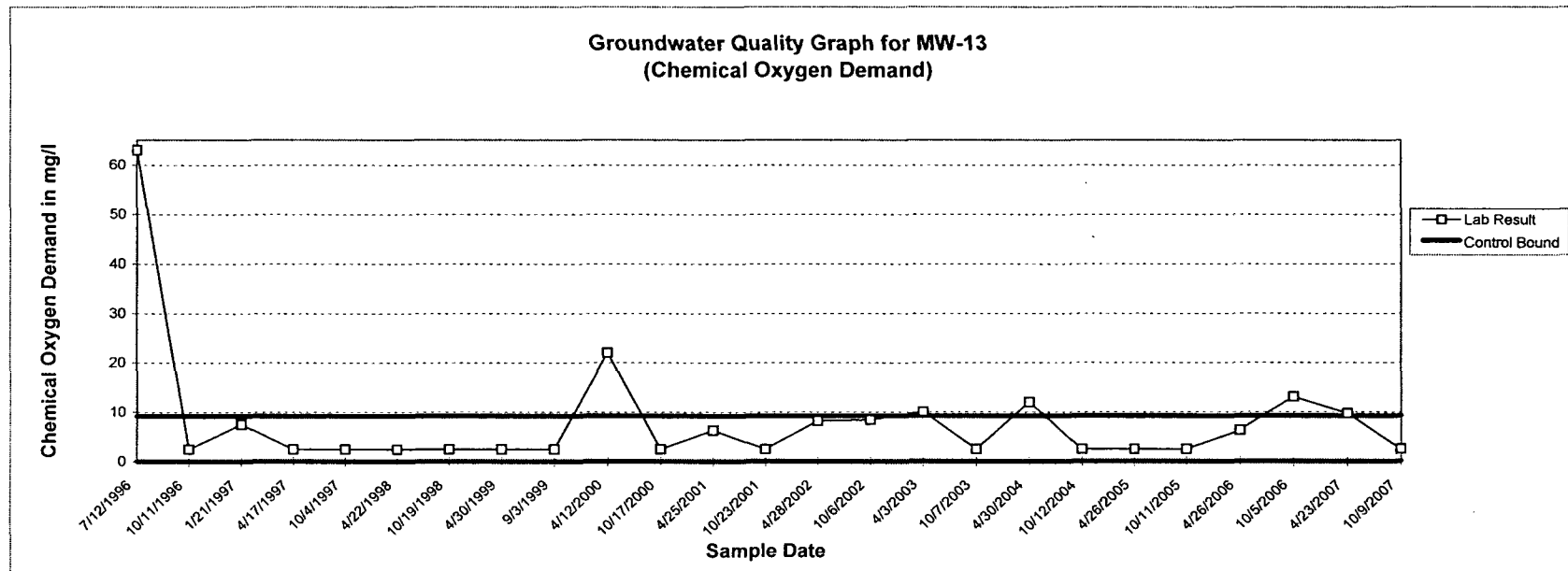
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



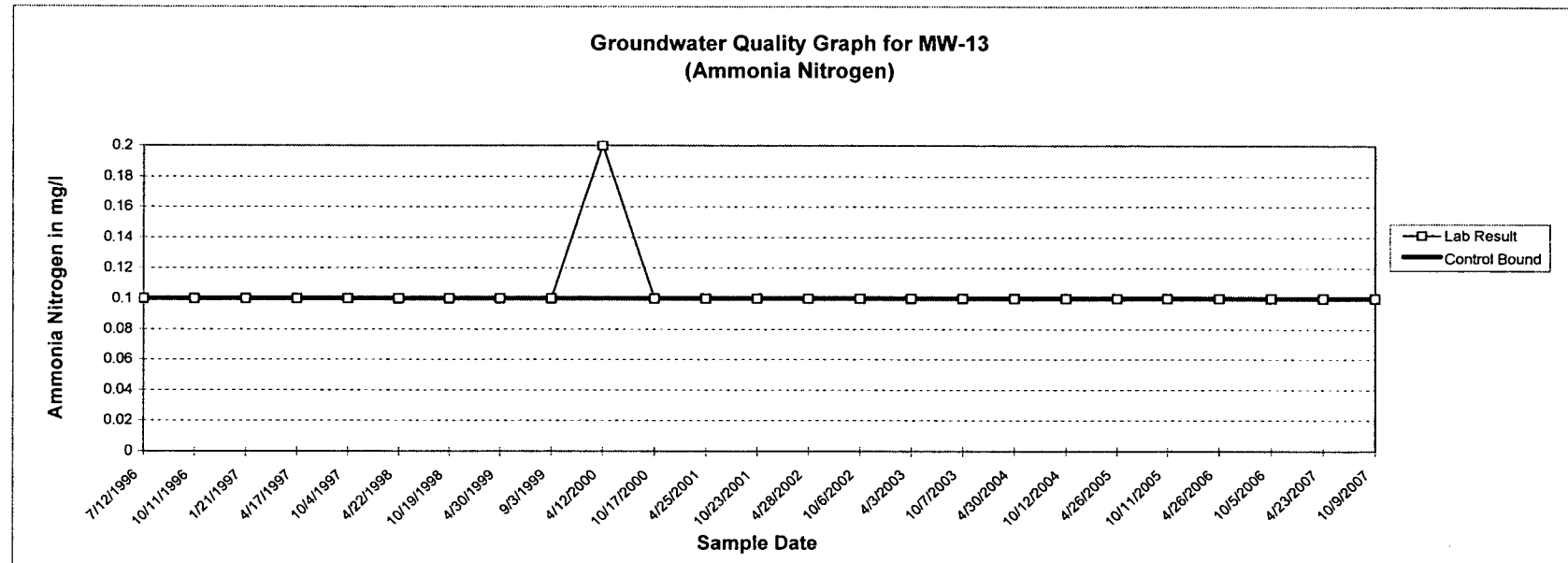
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-13

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

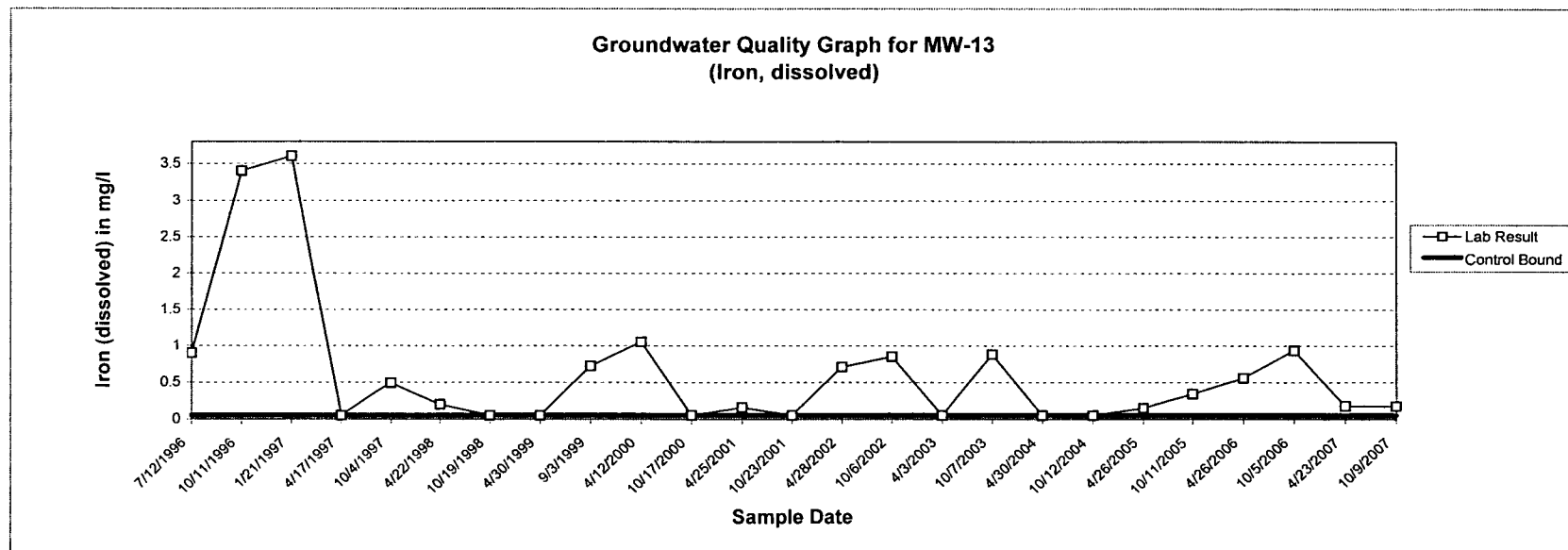


- NOTE:
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
  - 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
  - 3) One-half of the quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-13

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



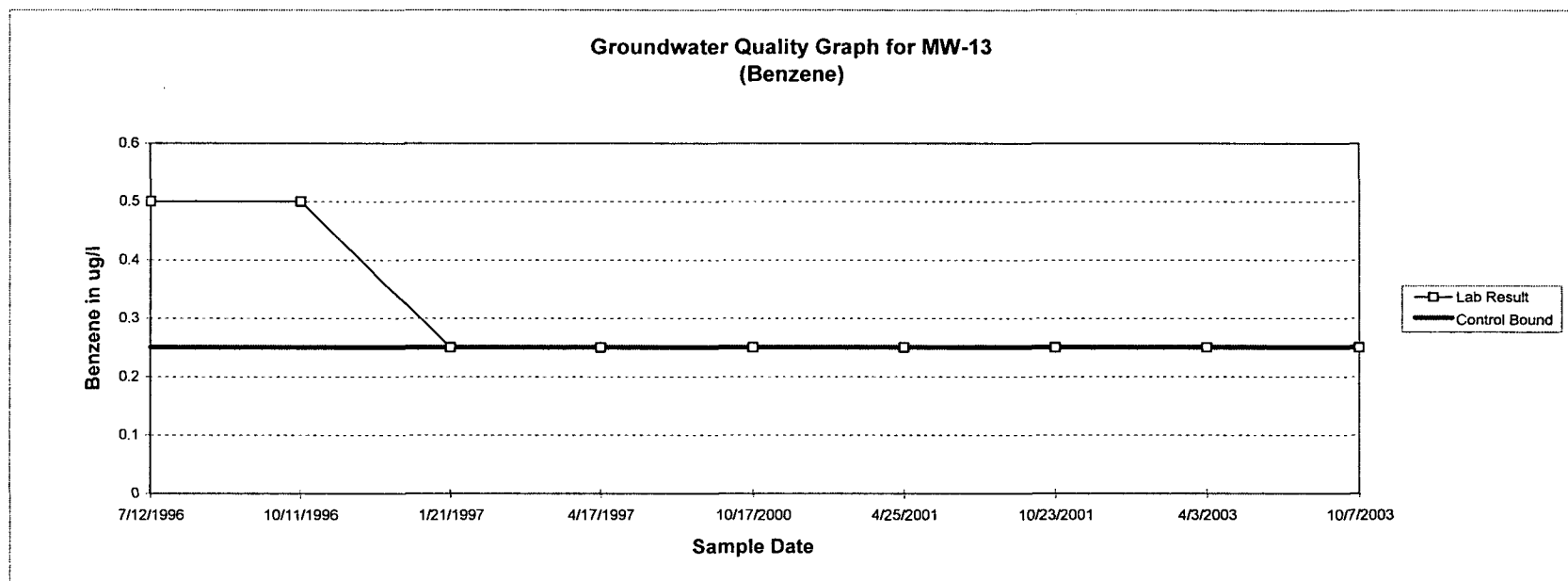
#### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



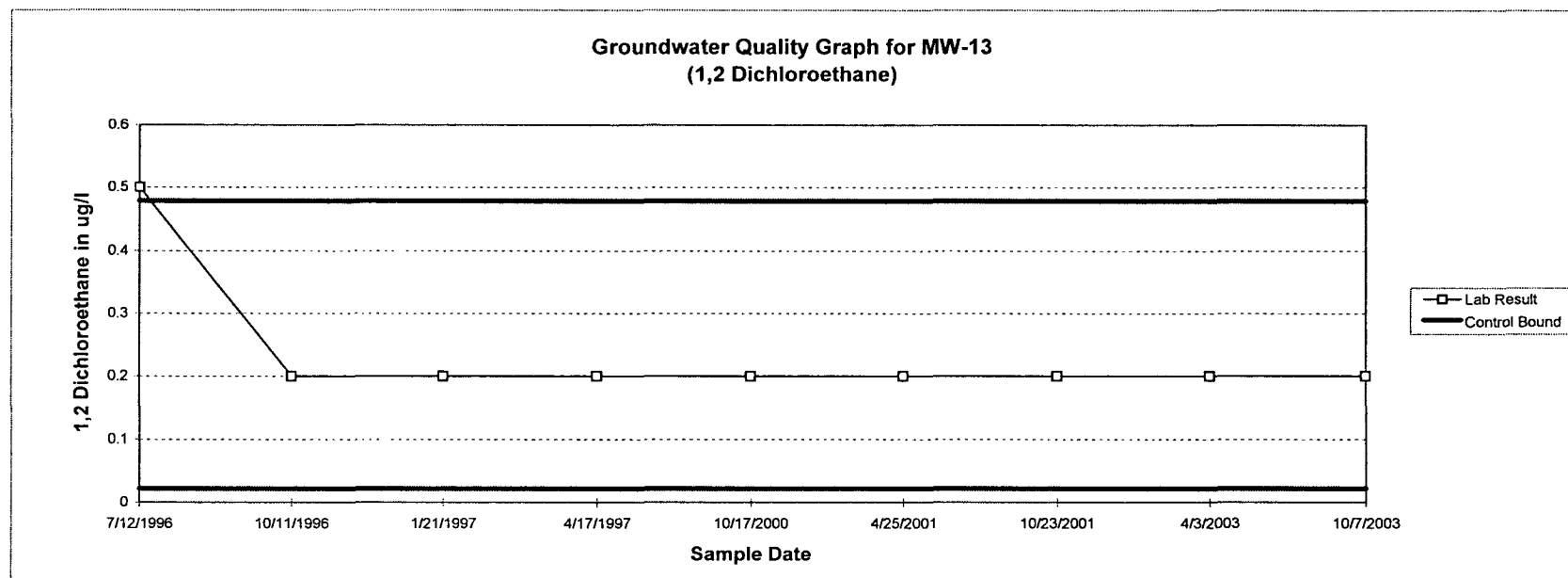
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



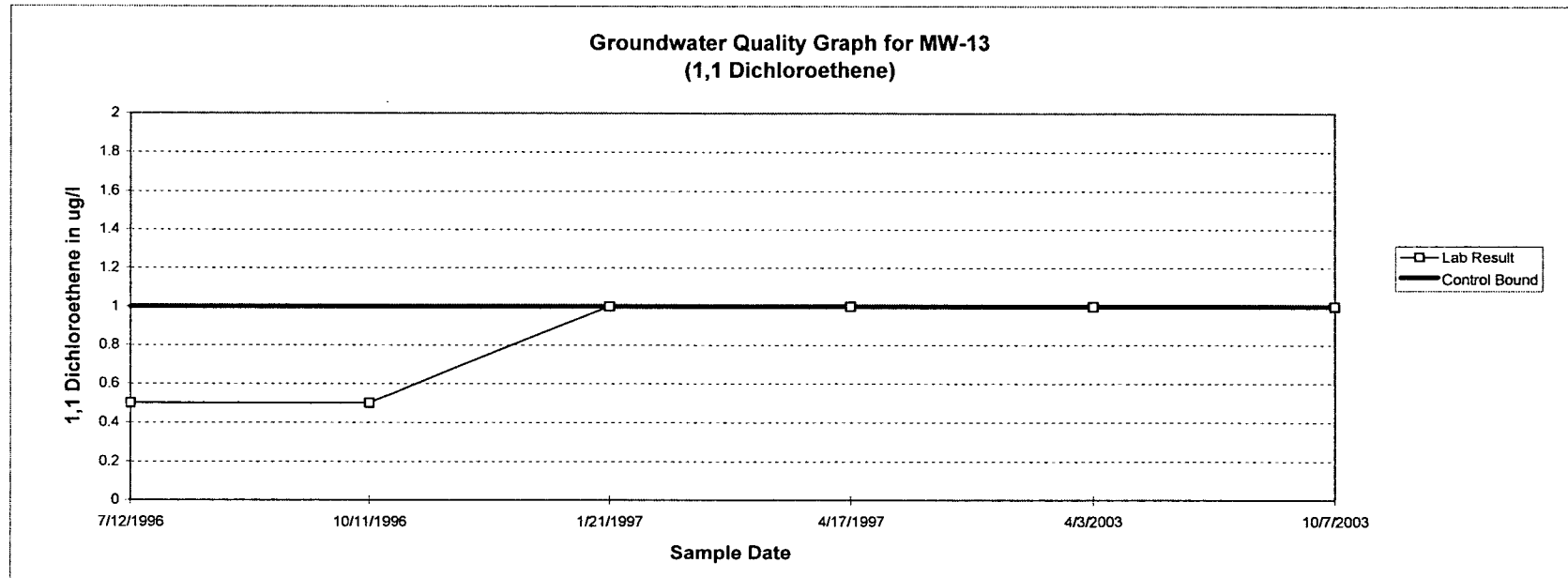
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

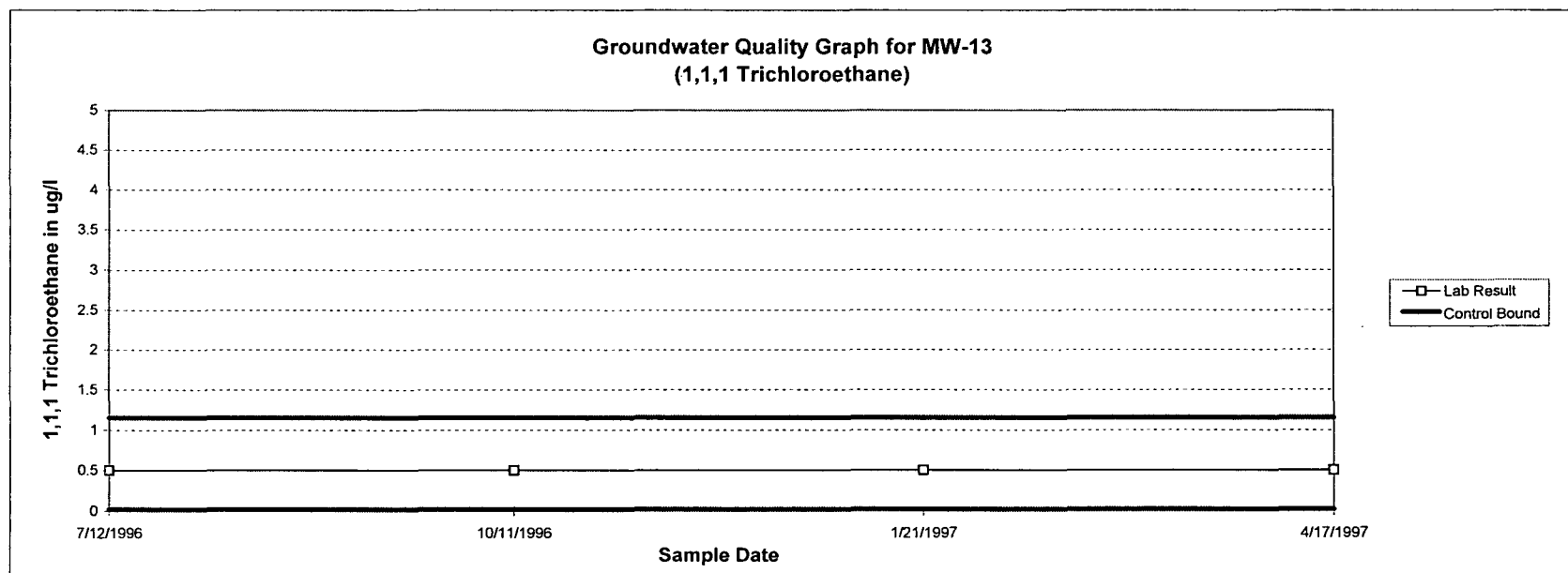


- NOTE:
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
  - 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
  - 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



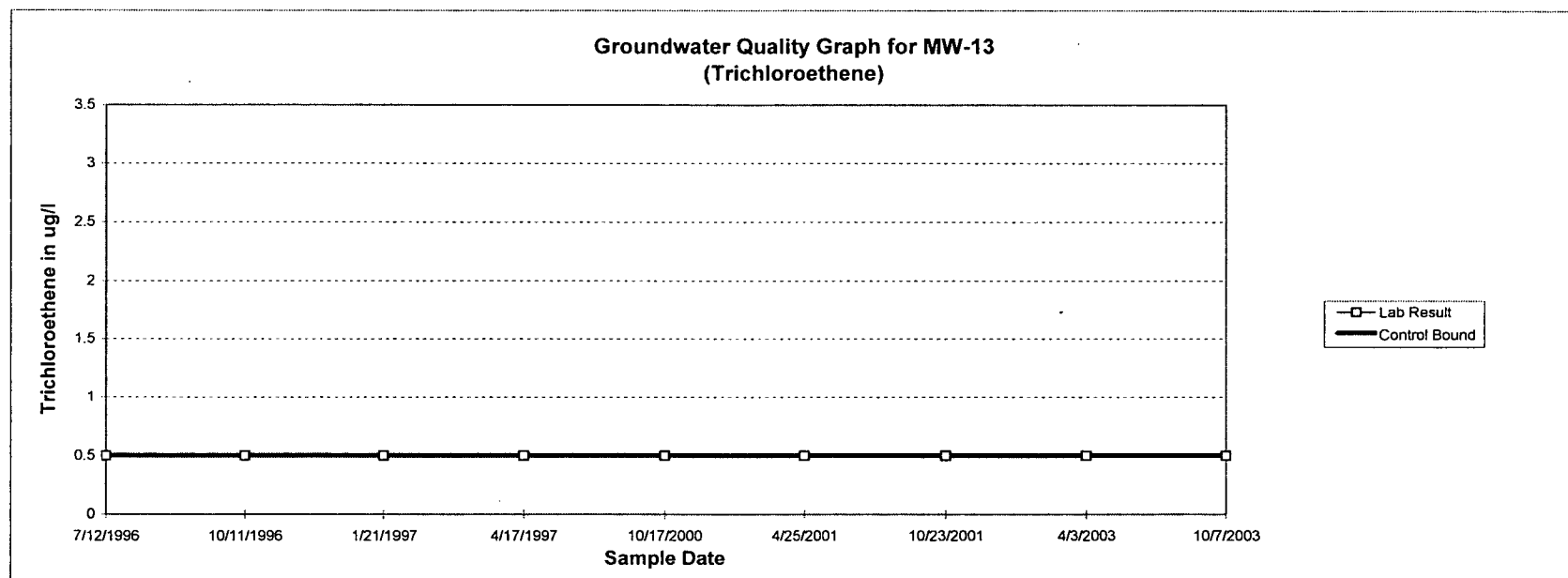
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



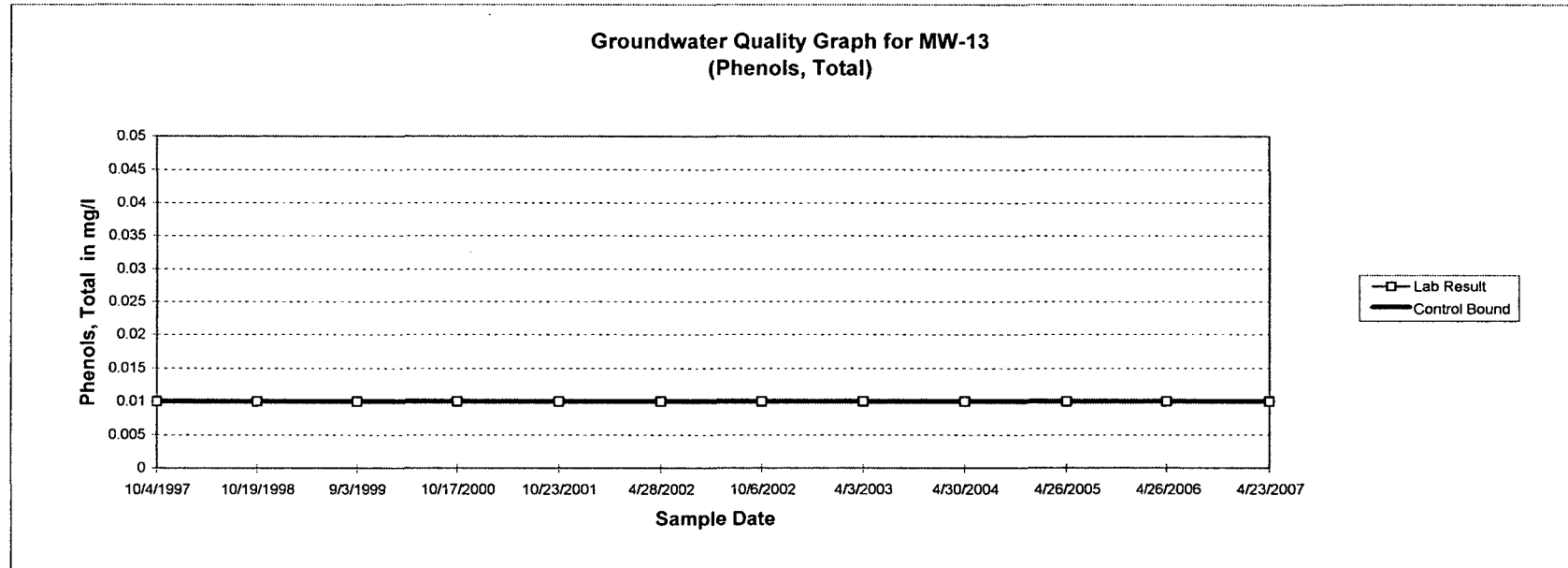
- NOTE:
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
  - 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
  - 3) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



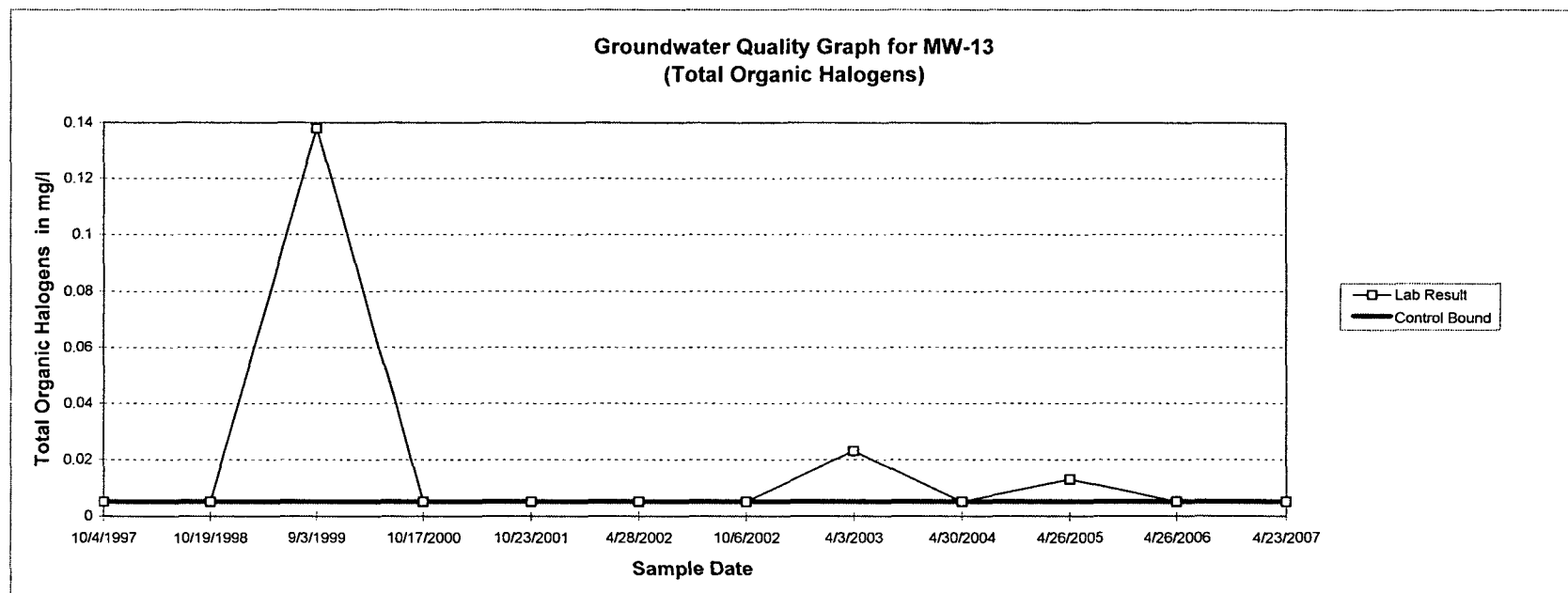
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



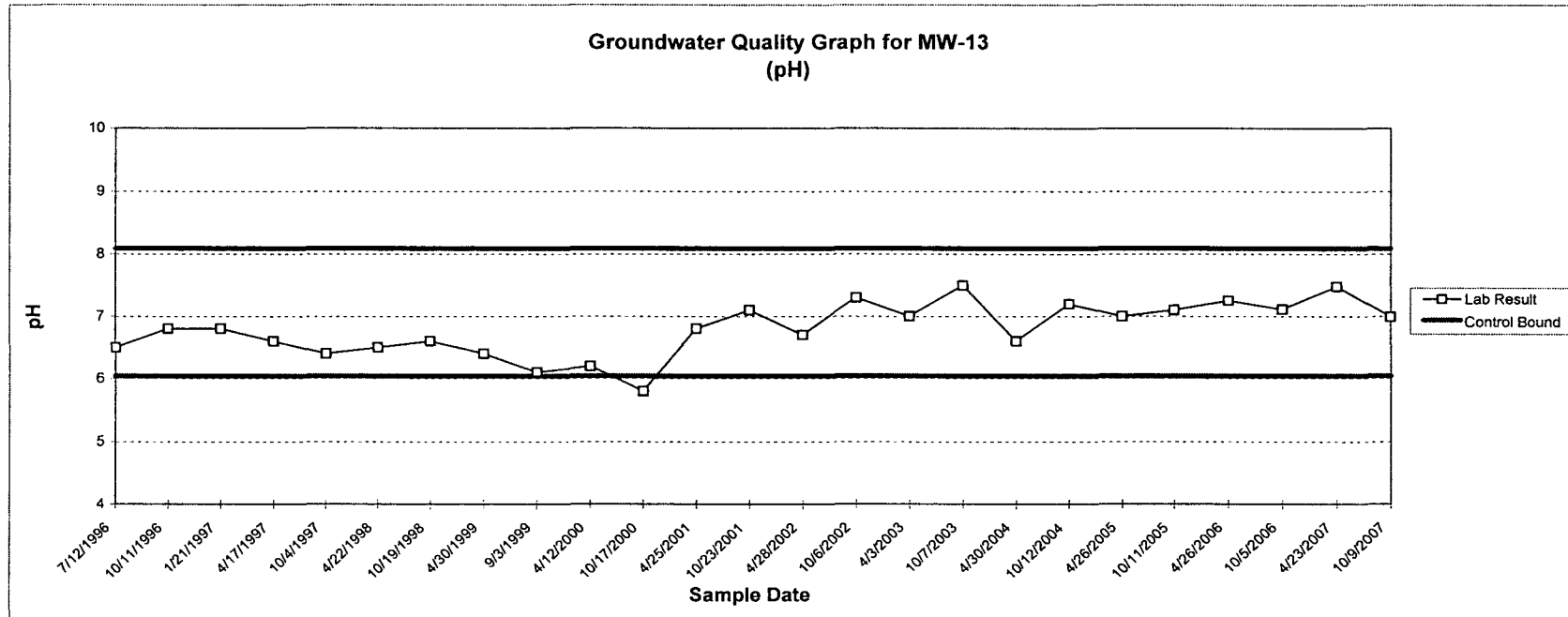
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



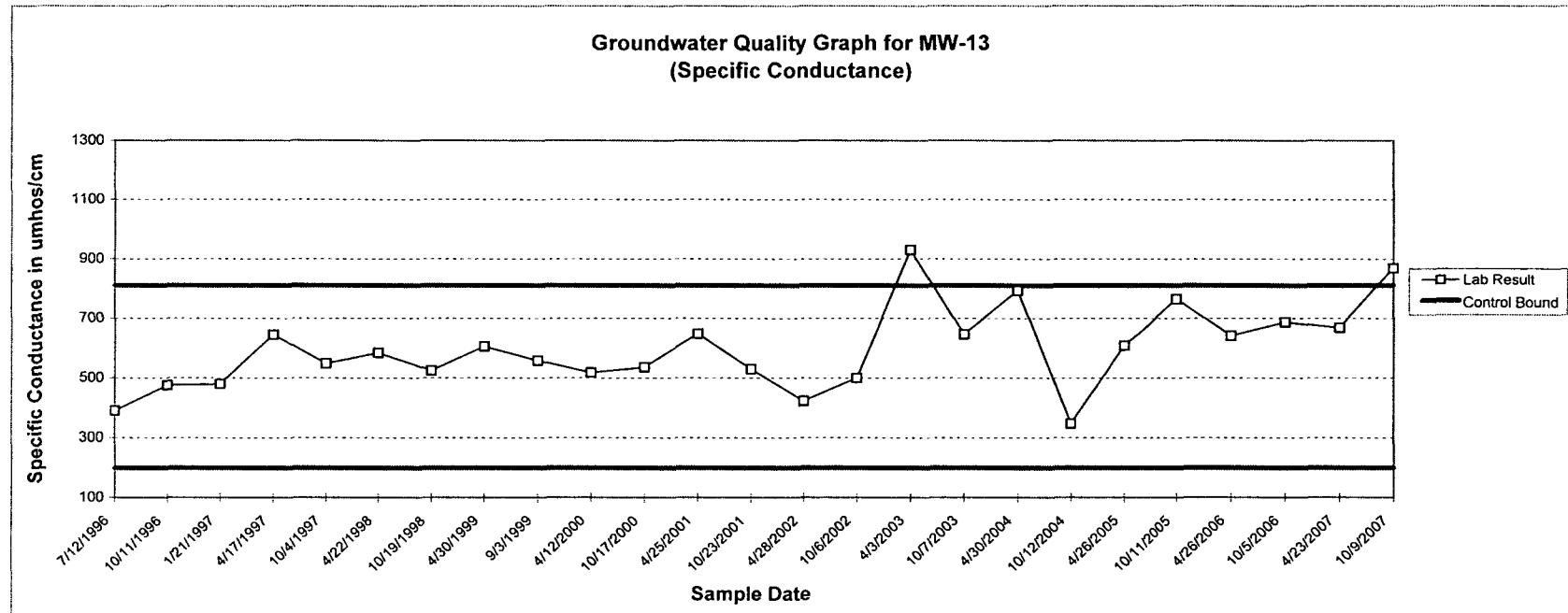
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-13

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-12

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-12 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-12 Standard	MW-12 Mean											
	via MW-17	via MW-17	Deviation		10/10/1996	1/21/1997	4/17/1997	7/15/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/3/1999	4/12/2000	10/17/2000
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	19.402	19.423	5.4	6.4	7.5	6.8	6.6	8.1	7.4	9.6	8.3	6.4	7.9
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.178	5.764	7.0	11	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.022	0.104	0.1	0.1	0.1	0.1	0.1	0.1	0.21	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.780	0.384	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	1.019	2.395	0.5	2.1	2.2	2.1	2.4	2.7	3.1	3.3	3.0	3	3.5
1,2-Dichloroethane (µg/l)	0.478	0.022	0.248	0.297	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.112	0.975	0.5	1.0	1.0	1.0	1.0	1.0	1.0	-	1.0	1.0	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.652	0.858	1.8	2.1	0.5	1.9	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	1.345	4.352	2.8	5.5	4.9	4.7	4.7	4.8	5.4	5.6	4.8	5.3	5.4
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	0.01	-	0.01	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.016	0.051	-	-	-	-	0.083	-	0.023	-	0.064	-	0.055
<b>Field Parameters</b>															
pH	8.1	6.0	0.454	6.308	6.4	6.2	6.2	6.1	5.0	6.0	6	6	5.8	5.7	5.8
Specific Conductance (µs/cm)	809	198	293.370	1069.920	1026	922	1010	1017	906	1044	1046	1102	1171	1087	1129

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

## ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-12 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-12 Standard Deviation	MW-12 Mean	4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	19.402	19.423	8.0	16.2	17.4	27	43.1	81.1	60.4	50.1	21.5	21.4	9.88	14.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.178	5.764	2.5	2.5	8.5	22	13	2.5	8.2	2.5	2.5	2.5	2.5	14.1
Ammonia Nitrogen (mg/l)	0.100	0.100	0.022	0.104	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.780	0.384	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.3	1.5	2.29	0.65
Benzene (µg/l)	0.250	0.250	1.019	2.395	2.8	4.3	3.6	3.59	-	2.88	0.25	2.74	2.3	1.76	1.22	1.11
1,2-Dichloroethane (µg/l)	0.478	0.022	0.248	0.297	0.2	0.2	0.2	0.2	-	0.2	1.33	0.2	0.2	0.2	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.112	0.975	-	-	1.0	1.0	-	1.0	1.0	1.0	1.0	1.0	1.0	1
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.652	0.858	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	1.345	4.352	4.7	5.6	4.6	5.35	-	3.93	6.57	4.05	3.6	4.19	2.95	1.88
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.016	0.051	-	0.058	0.059	0.044	0.057	-	0.054	-	0.038	-	0.0414	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.5	6.3	6.7	6.4	6.2	6.7	6.7	6.8	6.3	6.6	6.4	6.6	6.69	6.66
Specific Conductance (µs/cm)	809	198	293	1070	1223	1165	1040	1051	1319	671	1106	496	182	1571	1374	1369

## NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-12

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-12 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

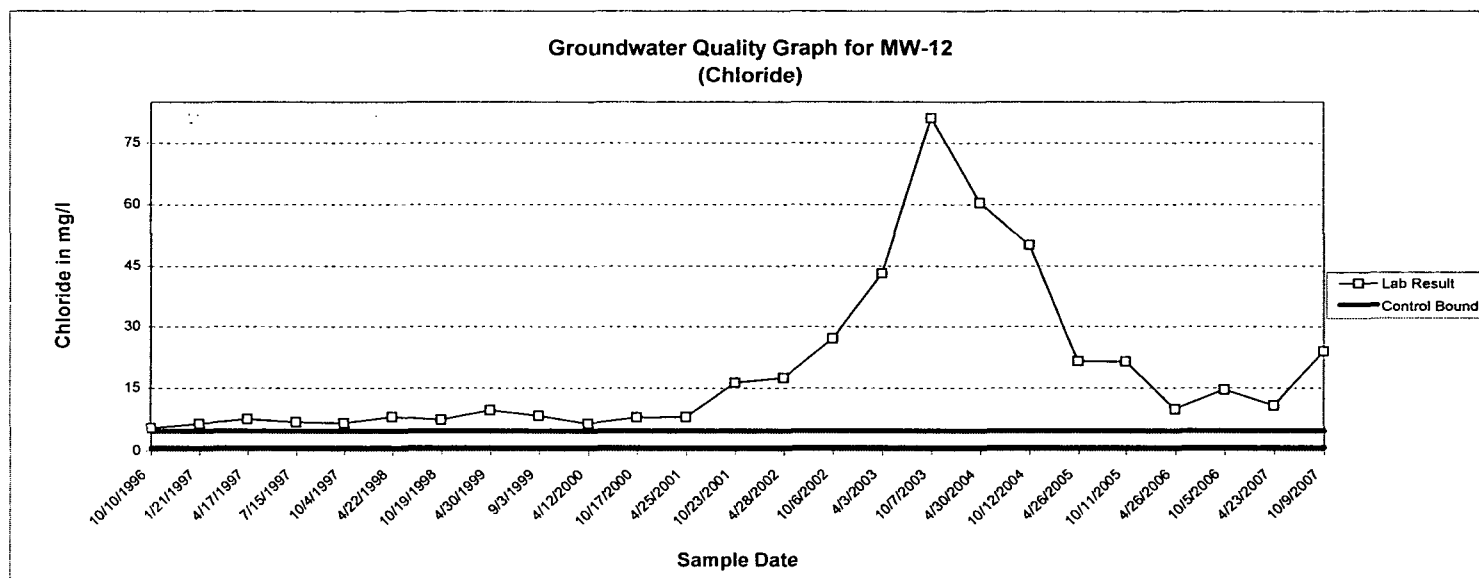
PARAMETER	Statistical Considerations				SAMPLE DATE									
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-12 Standard Deviation	MW-12 Mean	4/23/2007	10/9/2007								
<b>Laboratory Parameters</b>														
Chloride (mg/l)	4.710	0.707	19.402	19.423	10.7	23.9								
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.178	5.764	12.0	8.3								
Ammonia Nitrogen (mg/l)	0.100	0.100	0.022	0.104	0.1	0.1								
Iron, dissolved (mg/l)	0.050	0.050	0.780	0.384	0.816	3.09								
Benzene (µg/l)	0.250	0.250	1.019	2.395	1.33	1.69								
1,2-Dichloroethane (µg/l)	0.478	0.022	0.248	0.297	0.5	0.5								
1,1-Dichloroethene (µg/l)	1.000	1.000	0.112	0.975	1.0	1.0								
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.652	0.858	0.5	0.5								
Trichloroethene (µg/l)	0.500	0.500	1.345	4.352	1.36	1.76								
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	0.01	-								
Total Organic Halogens (mg/l)	0.005	0.005	0.016	0.051	0.0338	-								
<b>Field Parameters</b>														
pH	8.1	6.0	0.5	6.3	7.16	6.6								
Specific Conductance (µs/cm)	809	198	293	1070	1270	1451								

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-12  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

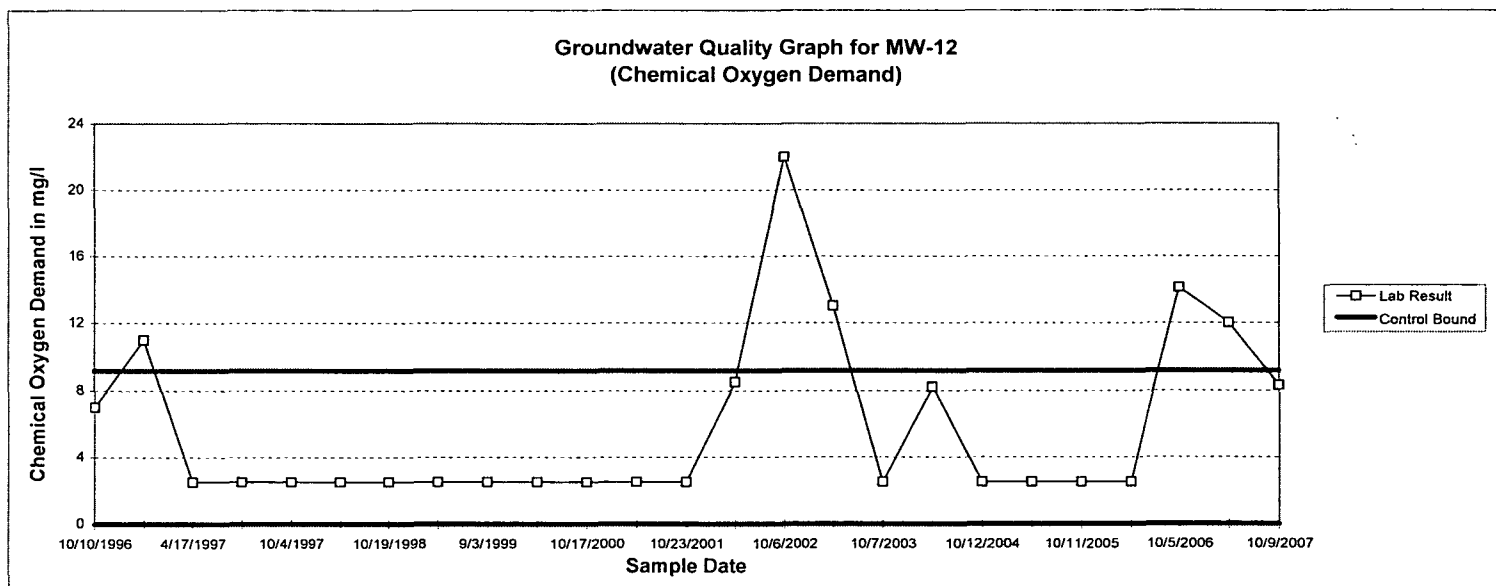
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

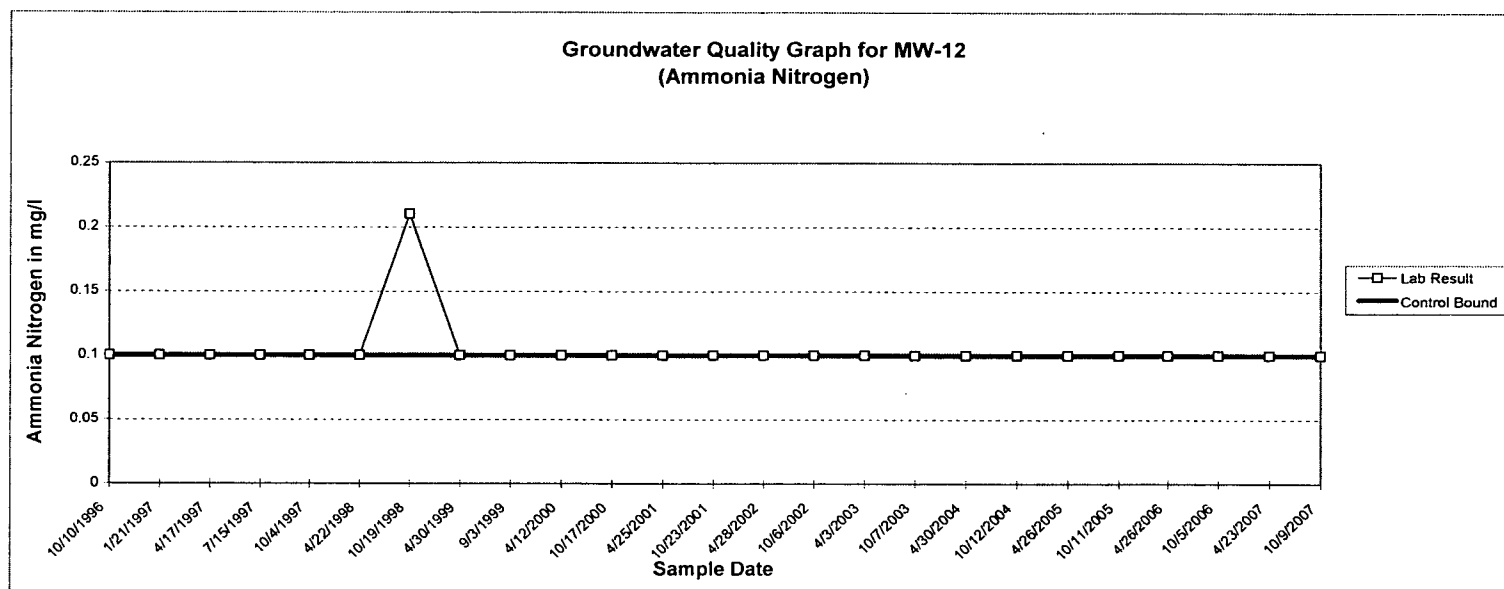


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters..

ANALYSIS SHEET MW-12  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



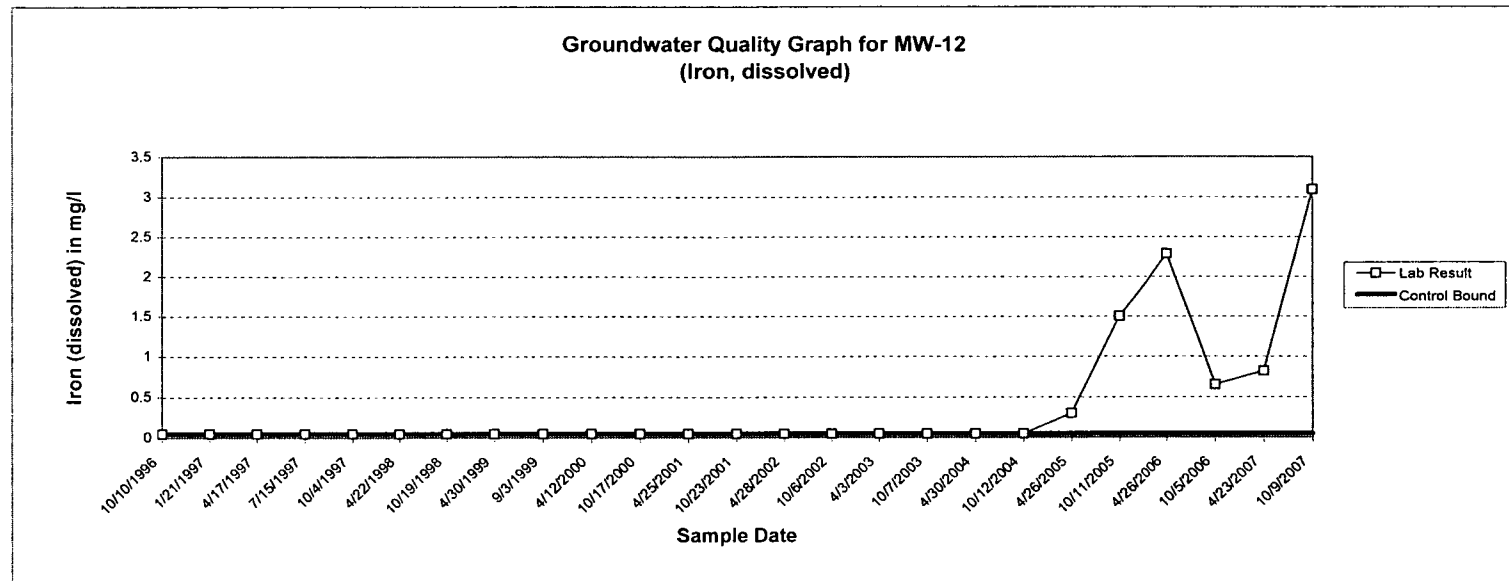
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



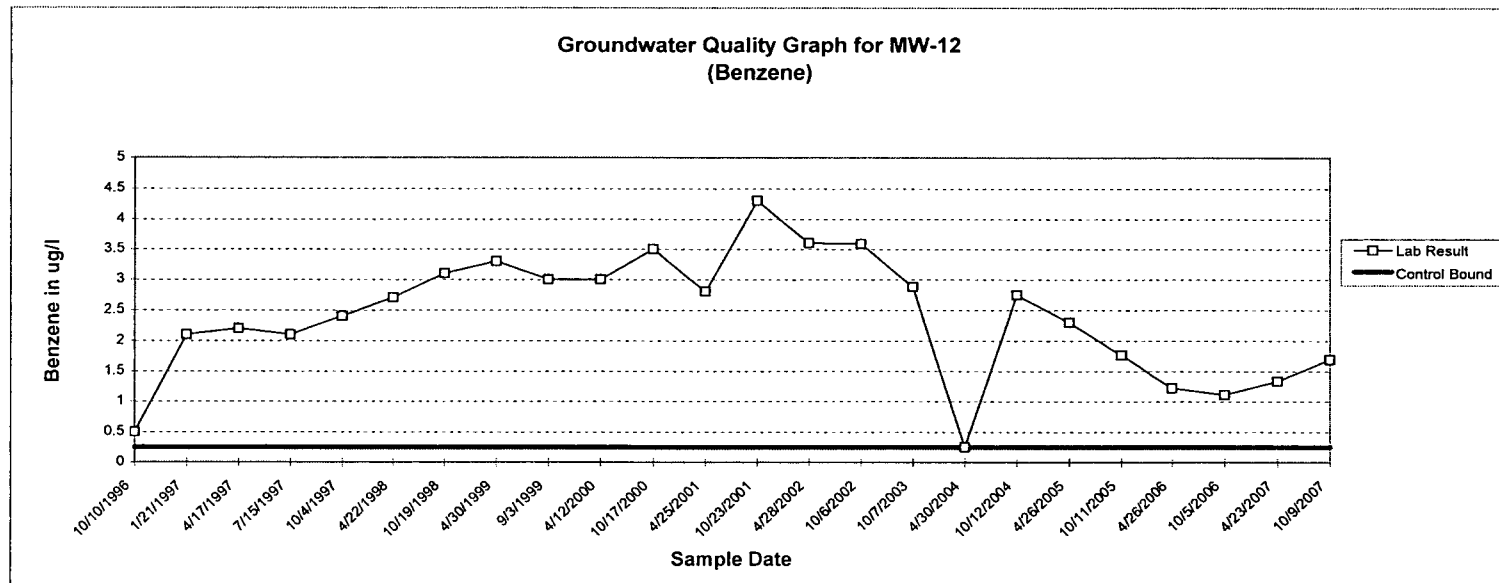
NOTE:

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ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



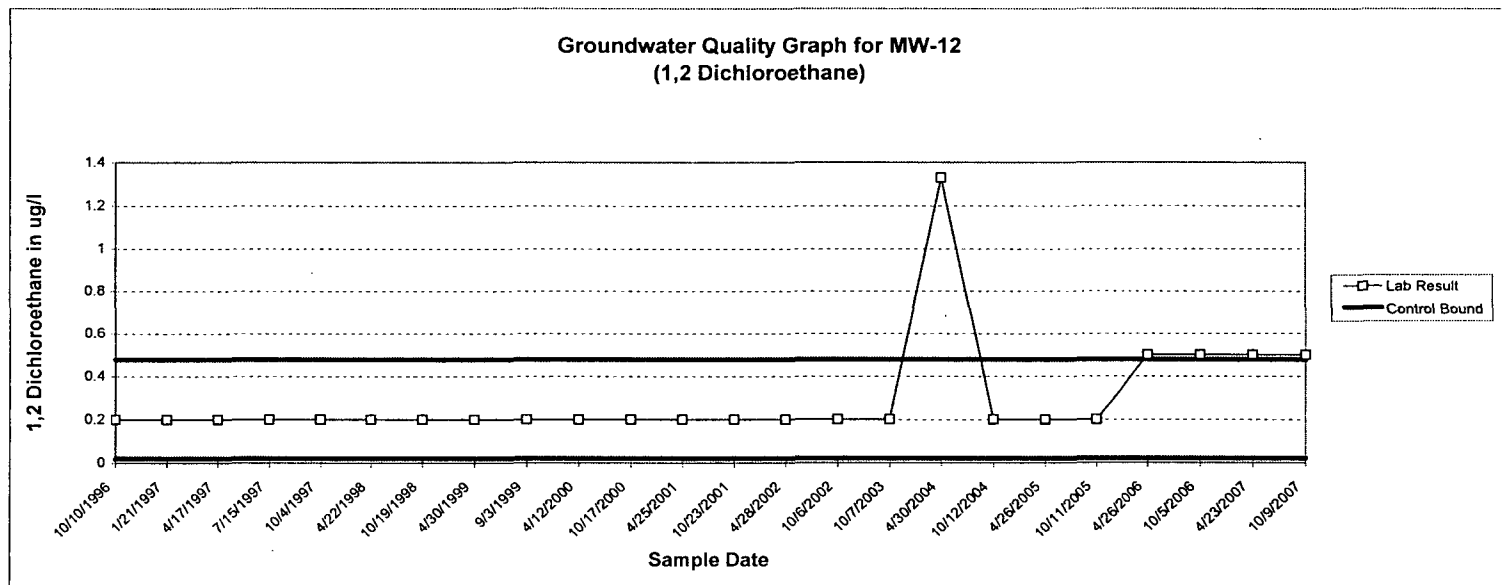
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ANALYSIS SHEET MW-12

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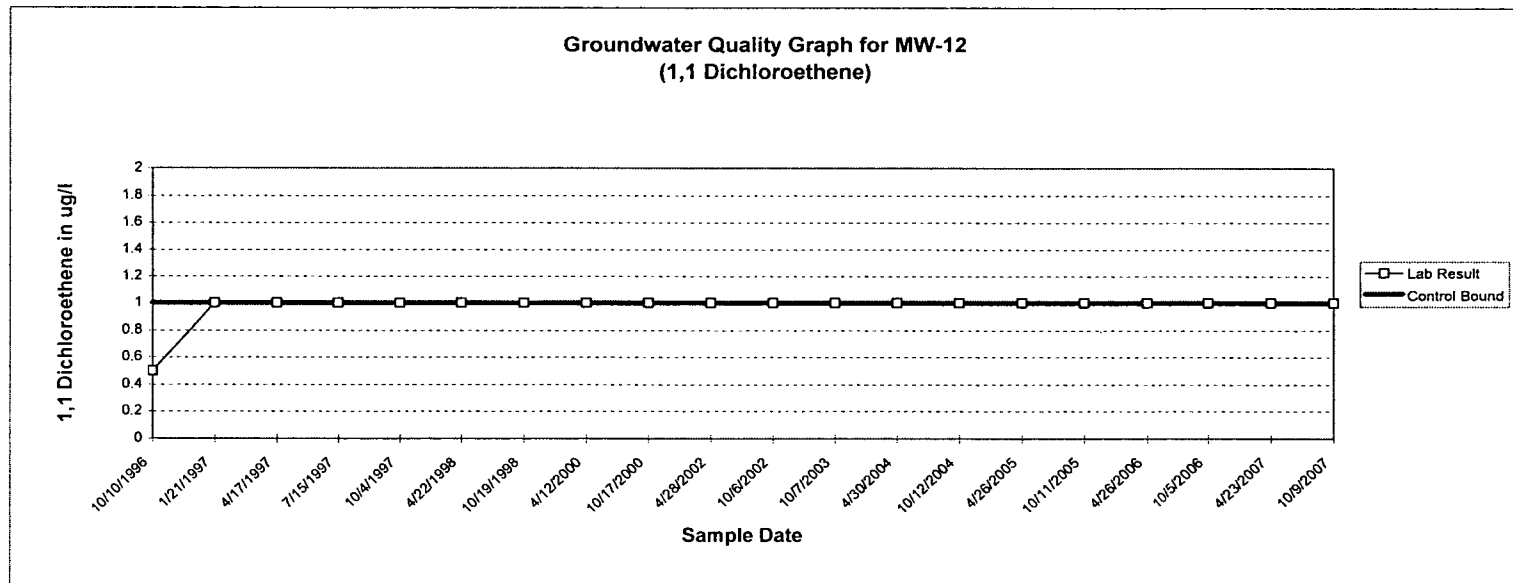


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ANALYSIS SHEET MW-12  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



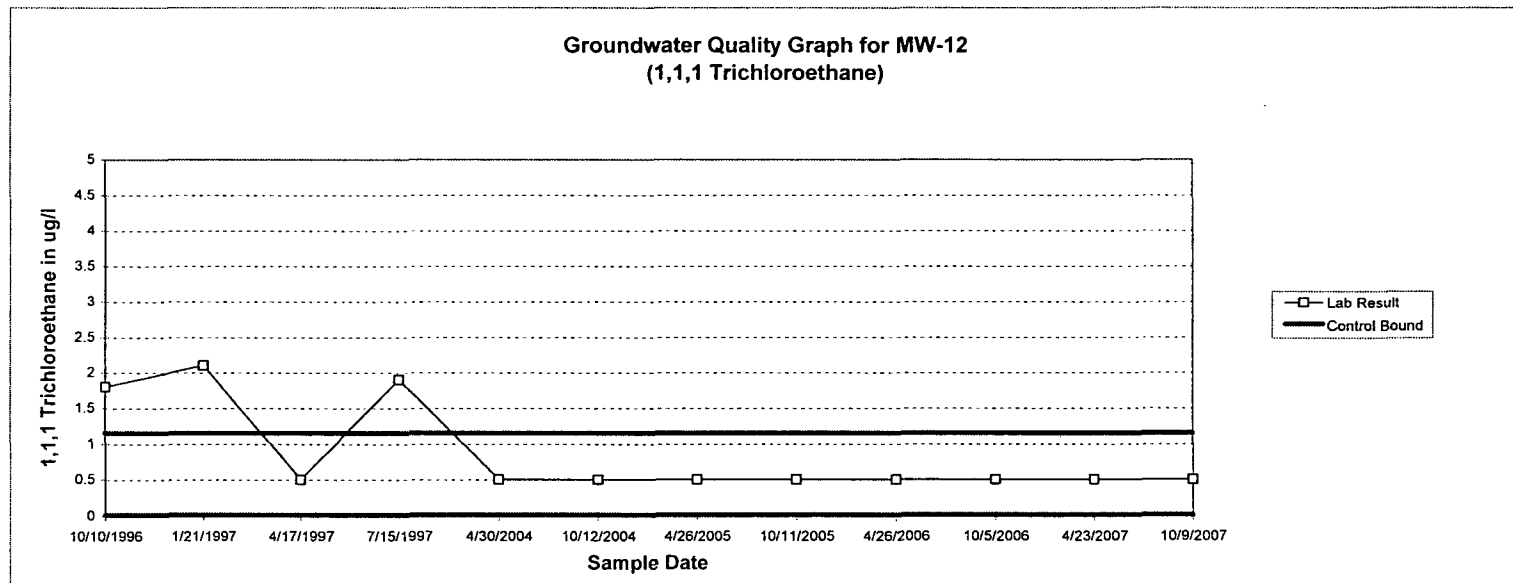
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GROUNDWATER SAMPLING AND ANALYSIS  
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SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



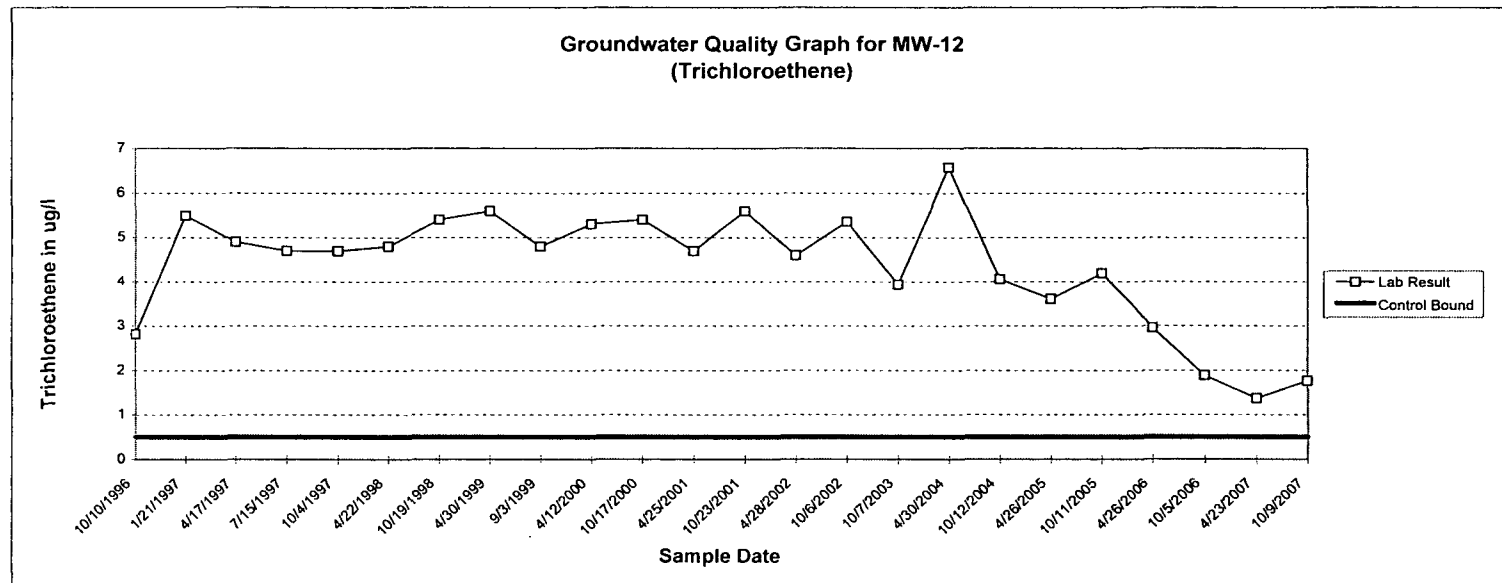
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# ANALYSIS SHEET MW-12

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



#### NOTE:

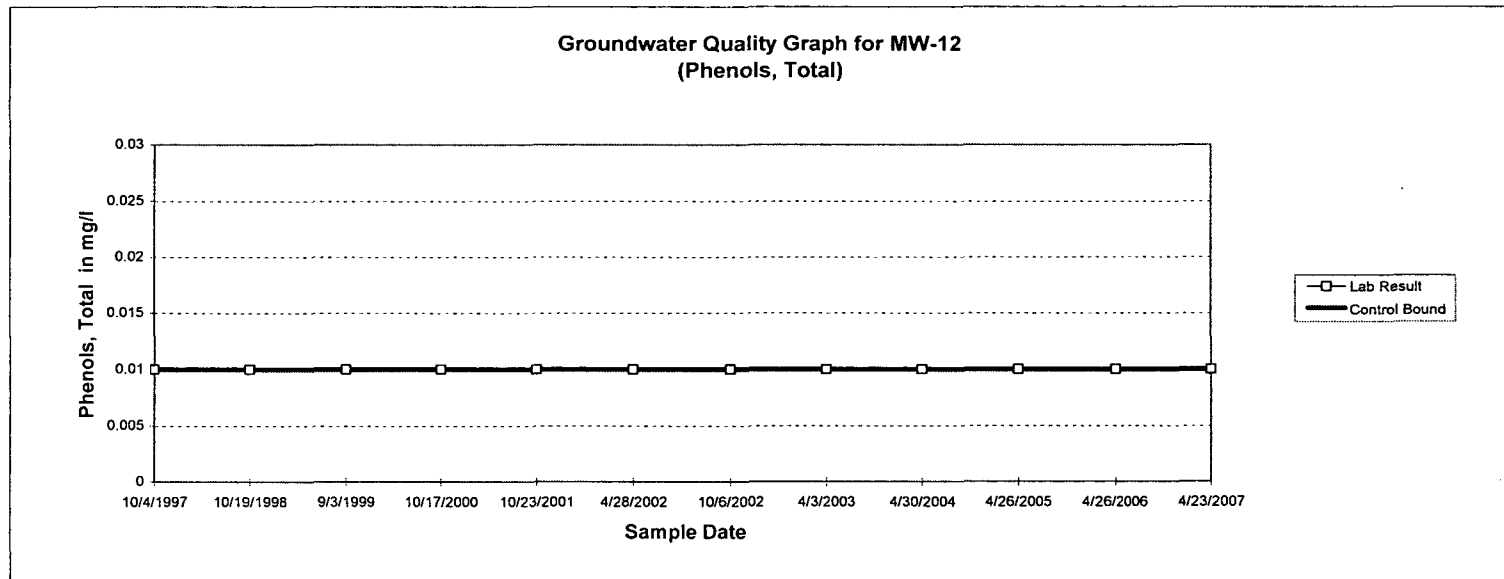
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ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

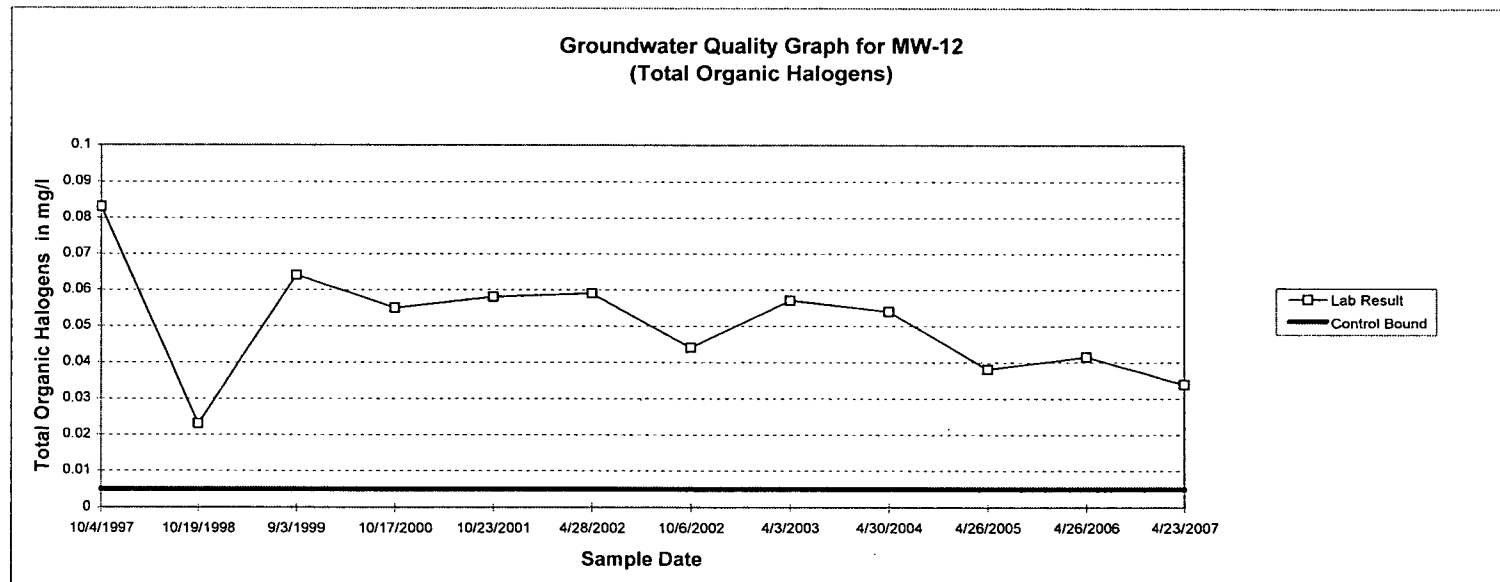


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ANALYSIS SHEET MW-12  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



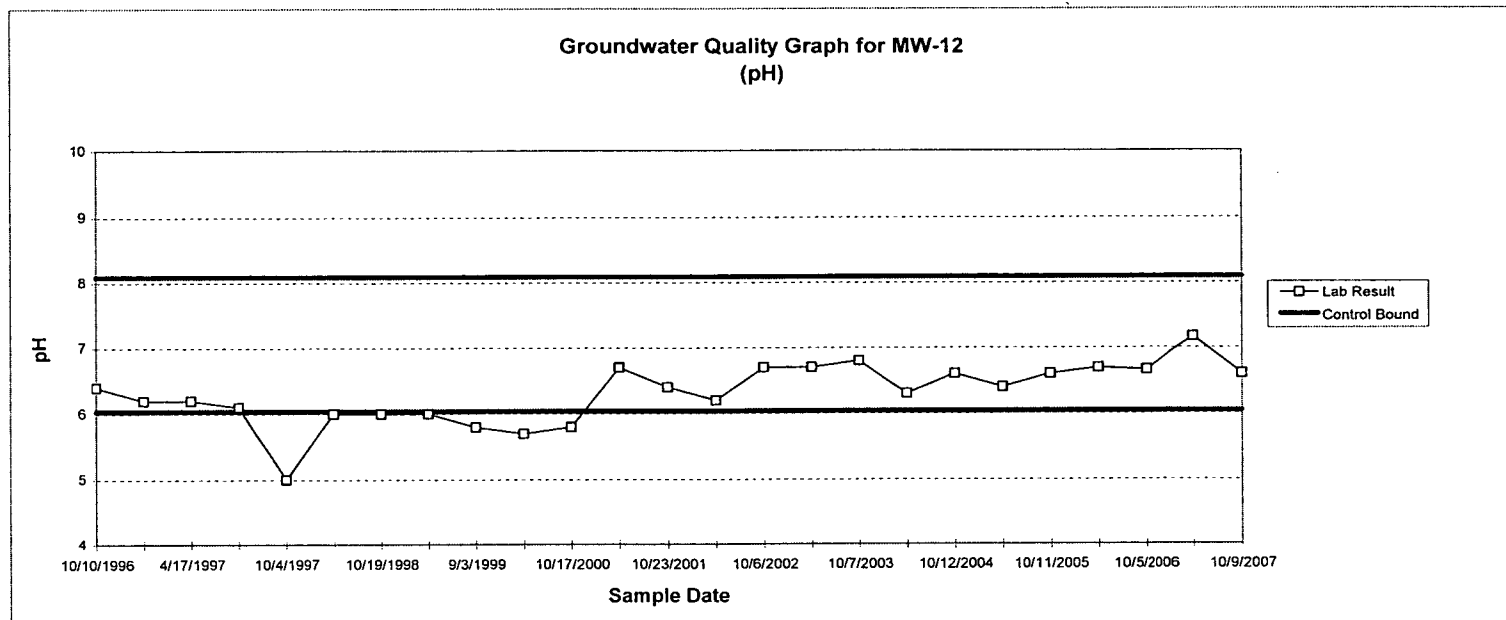
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ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



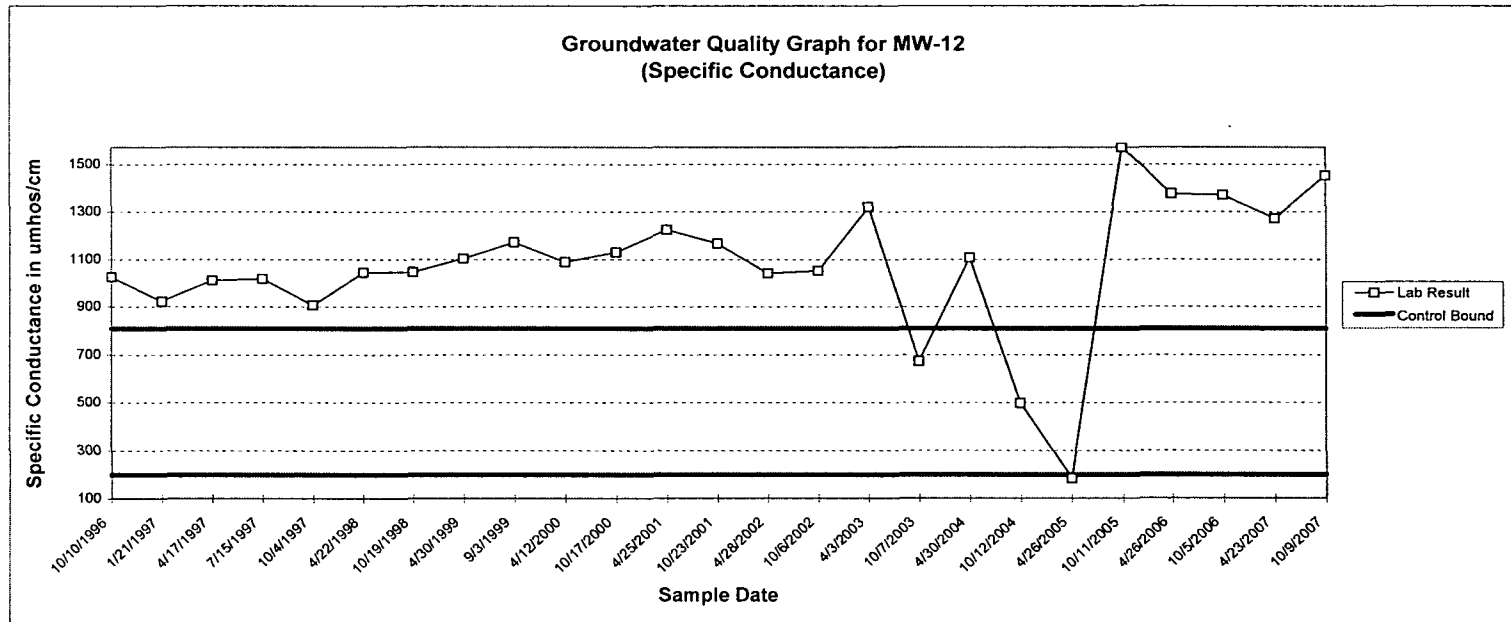
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ANALYSIS SHEET MW-12

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

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# ANALYSIS SHEET MW-11

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-11 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-11 Standard	MW-11 Mean	7/12/1996	10/10/1996	1/21/1997	4/17/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/3/1999	4/12/2000	10/17/2000
	via MW-17	via MW-17	Deviation												
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	13.021	24.12	19	19	22	20	28	20.2	32	37	33	6.4	5.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	4.815	4.89	5.7	5.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.034	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.914	0.32	3.6	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.116	0.31	0.5	0.5	0.25	0.25	-	-	-	-	-	-	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	0.5	0.2	0.2	0.2	-	-	-	-	-	-	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	0.5	0.5	1.0	1.0	-	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.300	0.65	0.5	1.1	0.5	0.5	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.50	0.5	0.5	0.5	0.5	-	-	-	-	-	-	0.5
Phenols, Total (mg/l)	0.010	0.010	0.000	0.01	-	-	-	-	0.01	-	0.01	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.003	0.01	-	-	-	-	0.005	-	0.015	-	0.011	-	0.005
<b>Field Parameters</b>															
pH	8.1	6.0	0.310	6.95	6.6	6.8	6.8	6.6	6.8	6.7	6.7	6.5	6.5	7.1	6.9
Specific Conductance (µs/cm)	809	198	196.685	739.36	465	622	515	537	543	625	667	707	736	737	740

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-11

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-11** (Down-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-11 Standard	MW-11 Mean												
	via MW-17	via MW-17	Deviation		4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	13.021	24.12	12.9	16.0	18.0	18.8	12.3	15.8	23.4	44.9	56.3	50.5	38.2	14
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.271	4.453	2.5	2.5	5.4	23	7.8	2.5	2.5	2.5	2.5	2.5	2.5	10.6
Ammonia Nitrogen (mg/l)	0.100	0.100	0.034	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.27	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.914	0.32	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.274	0.05
Benzene (µg/l)	0.250	0.250	0.116	0.31	0.25	0.25	-	-	-	0.25	-	-	-	-	-	-
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	0.2	0.2	-	-	-	0.2	-	-	-	-	-	-
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	-	-	-	-	-	1.0	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.300	0.65	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.50	0.5	0.5	-	-	-	0.5	-	-	-	-	-	-
Phenols, Total (mg/l)	0.010	0.010	0.000	0.01	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.003	0.01	-	0.005	0.005	0.005	0.005	-	0.005	-	0.005	-	0.005	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.9	7.1	7.2	6.3	7.3	7.2	7.5	6.8	7.1	7.1	7.2	7.09	7.2
Specific Conductance (µs/cm)	809	198	197	739	428	733	784	684	735	832	615	1266	658	989	882	975

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-11

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-11 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-11 Standard Deviation	MW-11 Mean	4/23/2007	10/9/2007										
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	13.021	24.12	16.0	23.9										
Chemical Oxygen Demand (mg/l)	9.169	0.000	5.271	4.453	13.7	8.3										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.034	0.11	<b>0.1</b>	<b>0.1</b>										
Iron, dissolved (mg/l)	0.050	0.050	0.914	0.32	<b>0.05</b>	3.09										
Benzene (µg/l)	0.250	0.250	0.116	0.31	-	-										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	-	-										
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	-	-										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.300	0.65	-	-										
Trichloroethene (µg/l)	0.500	0.500	0.000	0.50	-	-										
Phenols, Total (mg/l)	0.010	0.010	0.000	0.01	<b>0.01</b>	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.003	0.01	<b>0.005</b>	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.9	7.15	7.37										
Specific Conductance (µs/cm)	809	198	197	739	979	1030										

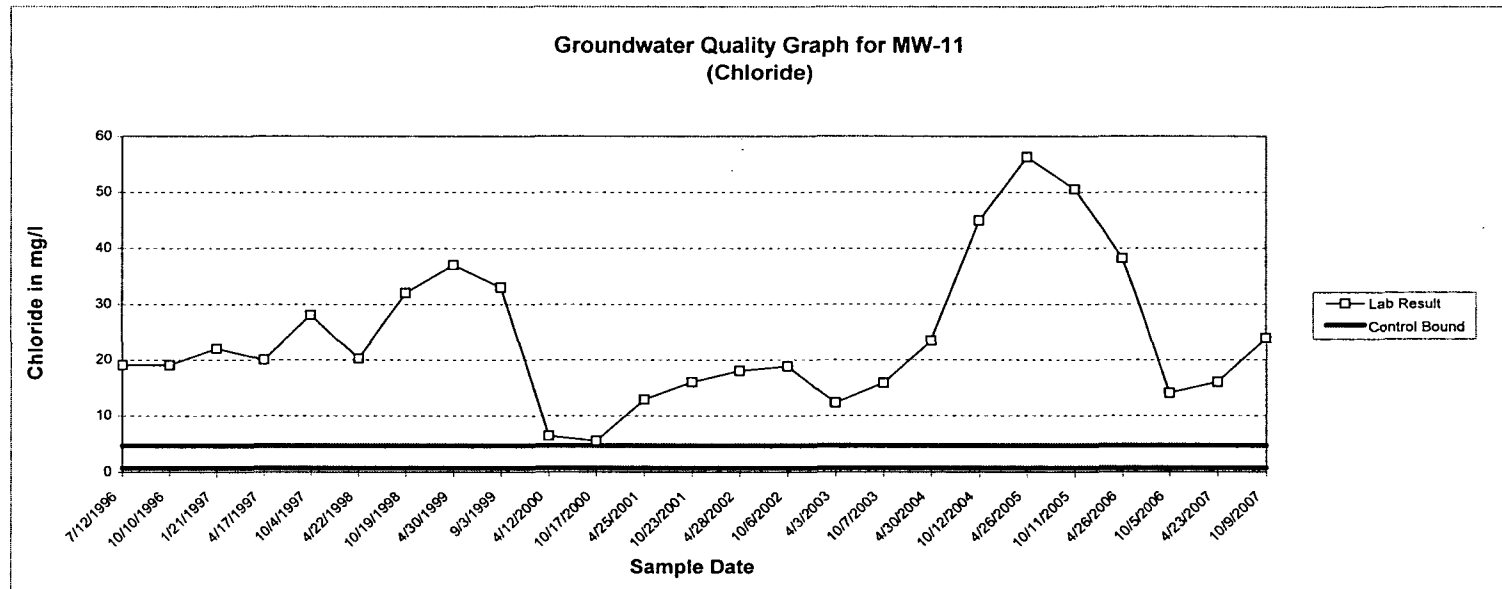
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
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ANALYSIS SHEET MW-11

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



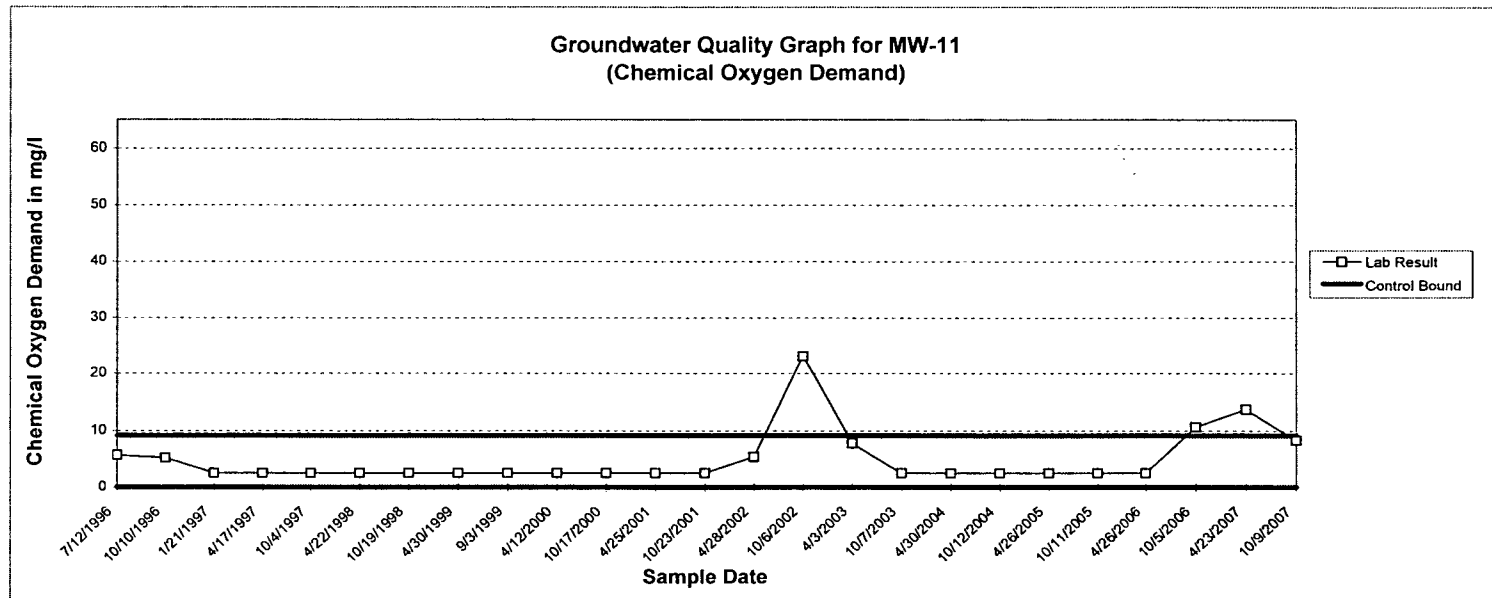
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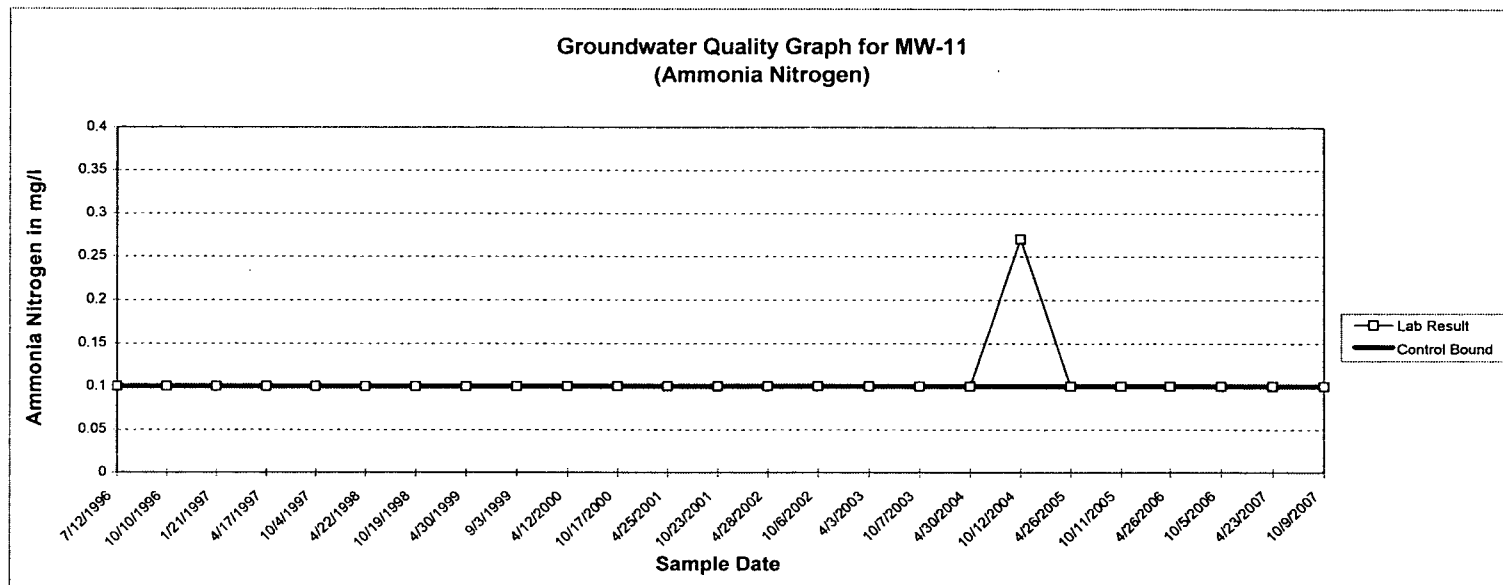


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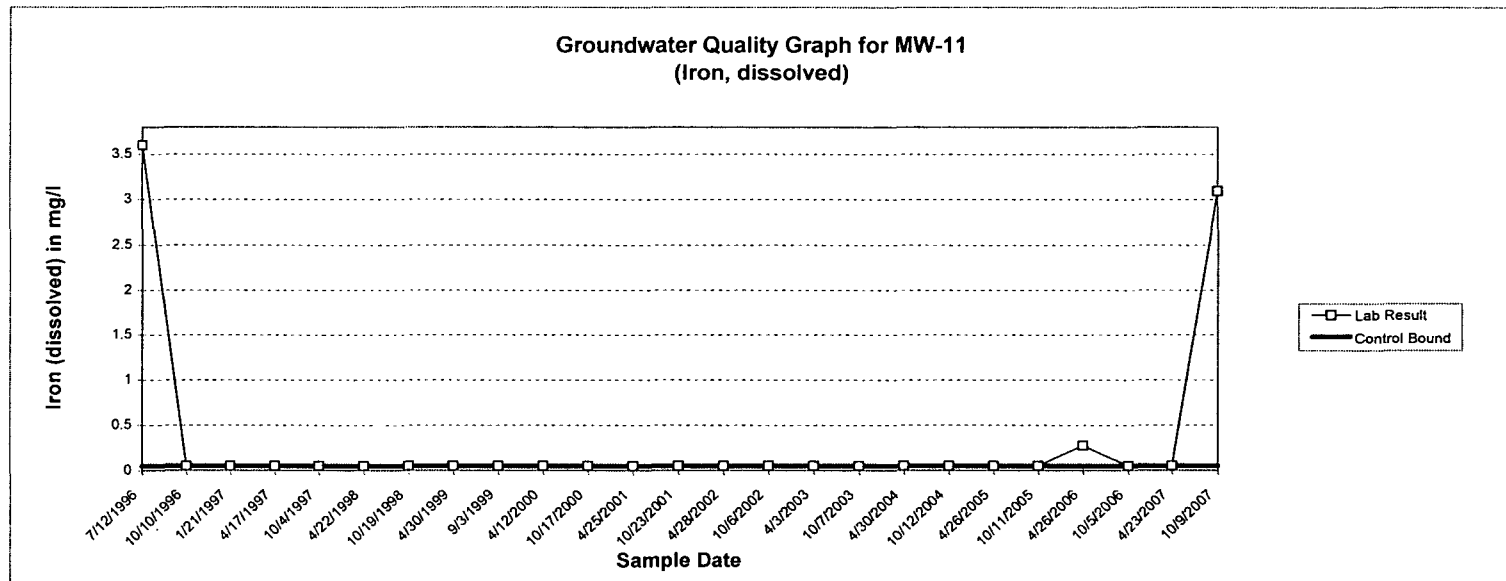


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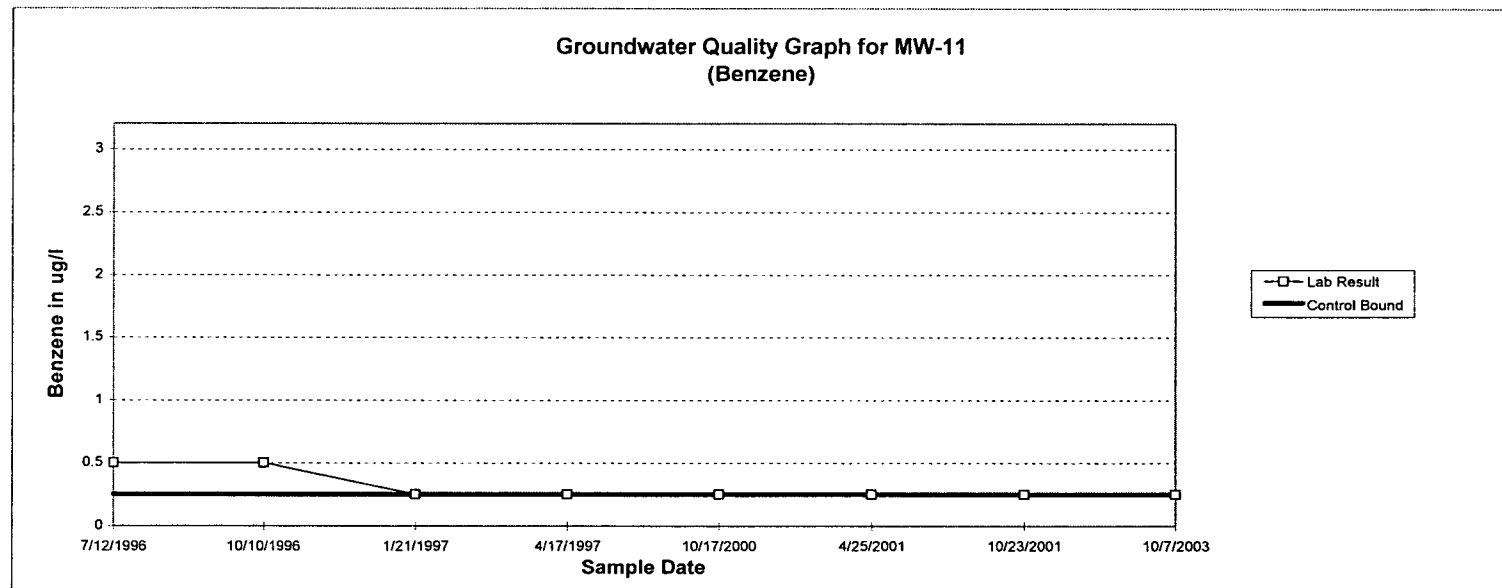
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ANALYSIS SHEET MW-11

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PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

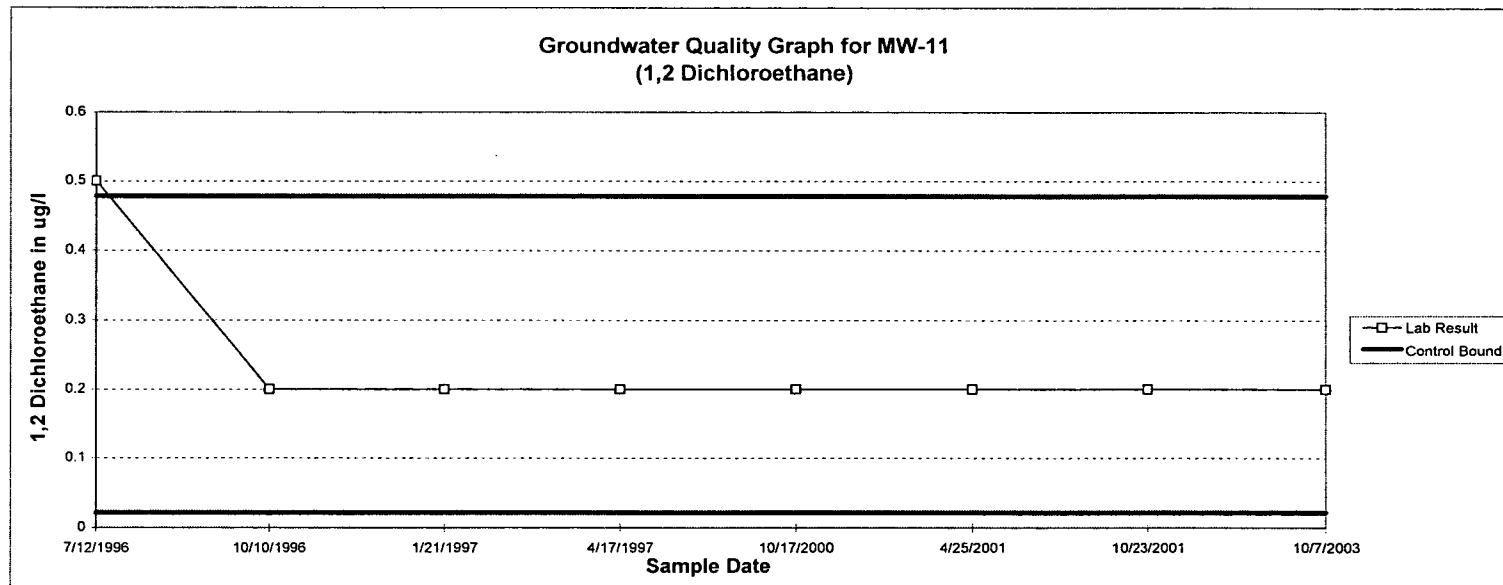


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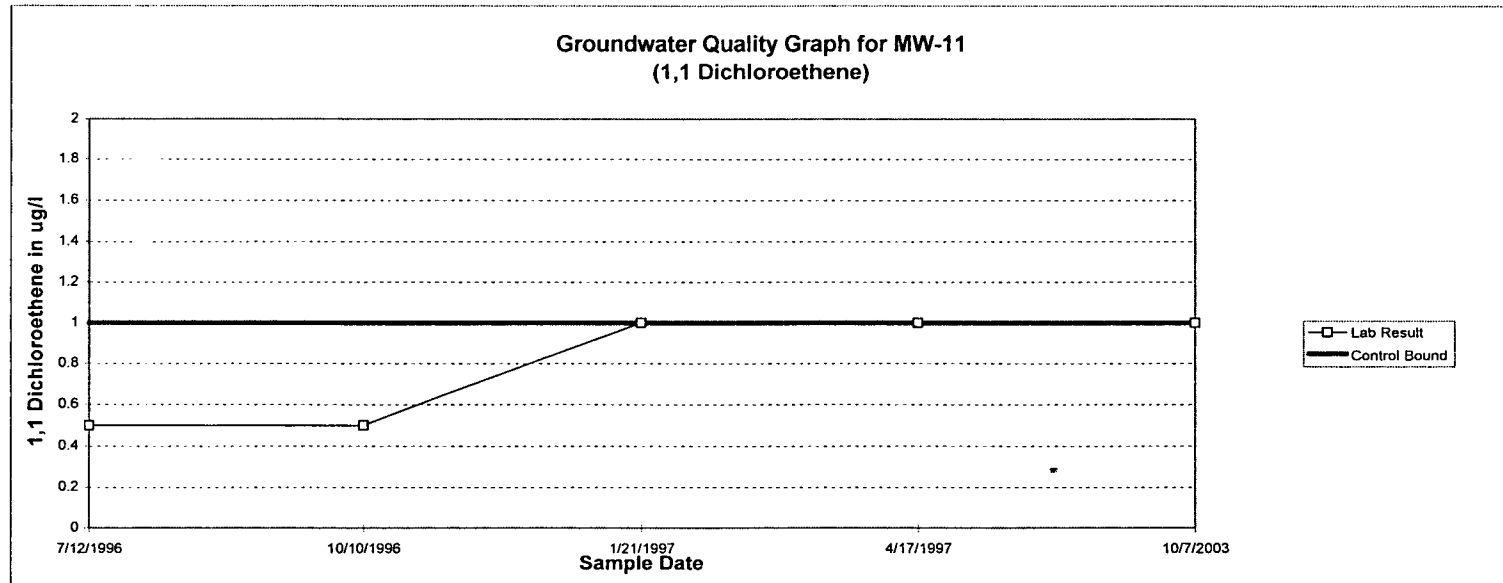
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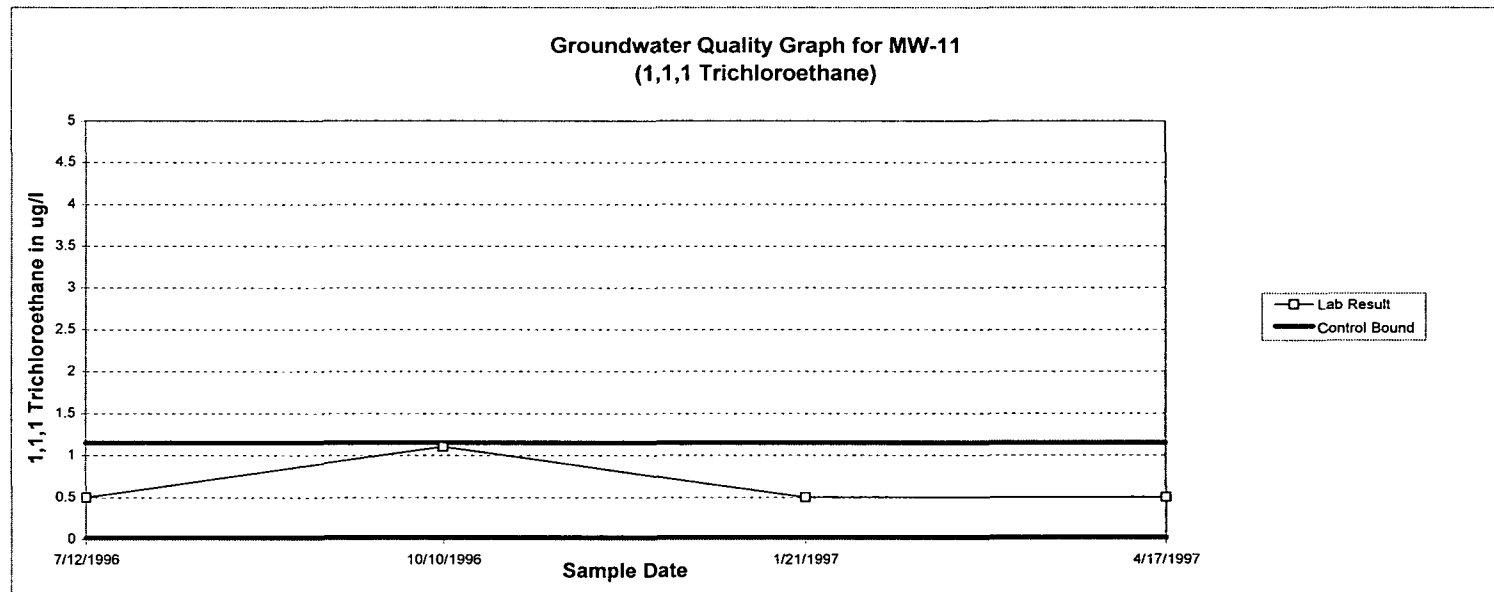
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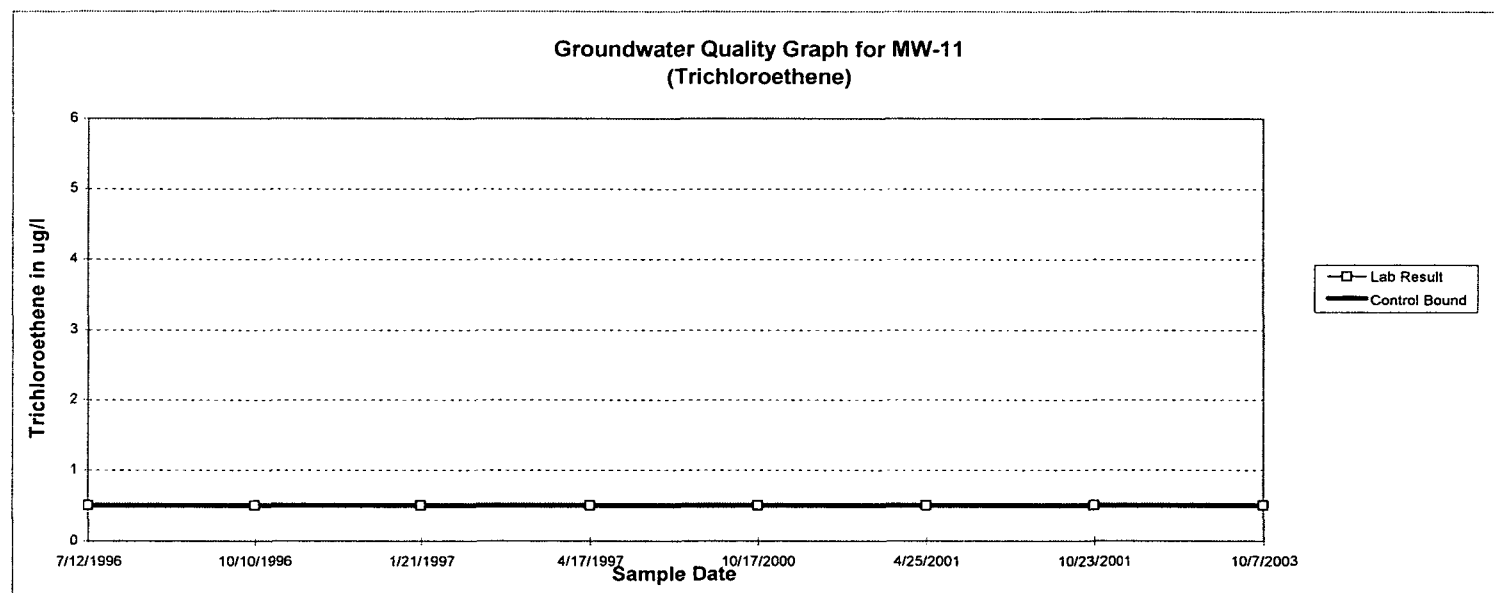
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ANALYSIS SHEET MW-11

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GROUNDWATER SAMPLING AND ANALYSIS  
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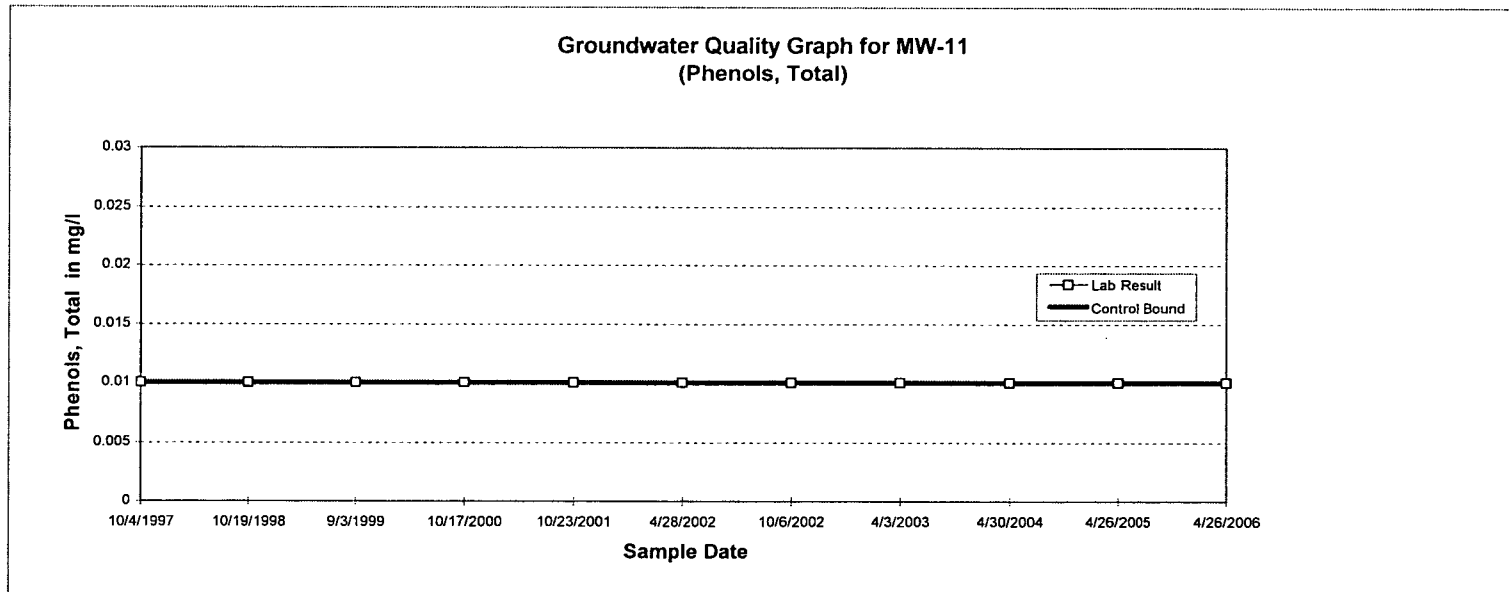
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ANALYSIS SHEET MW-11  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
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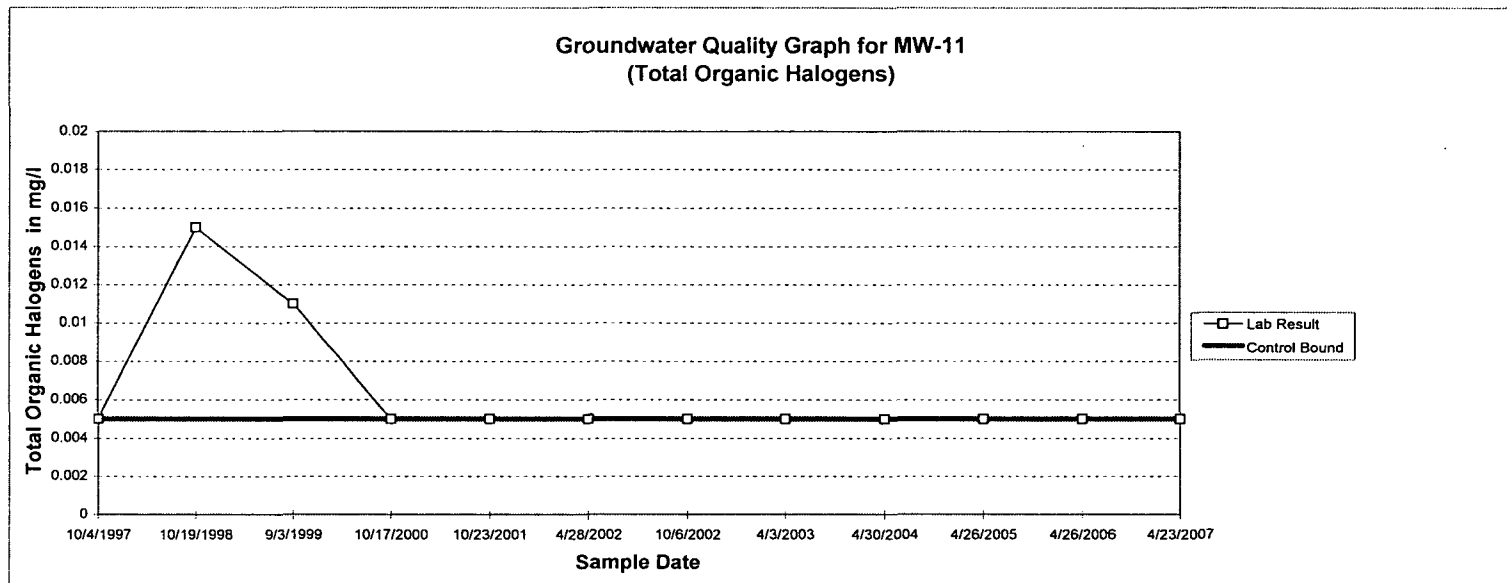
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- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-11

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



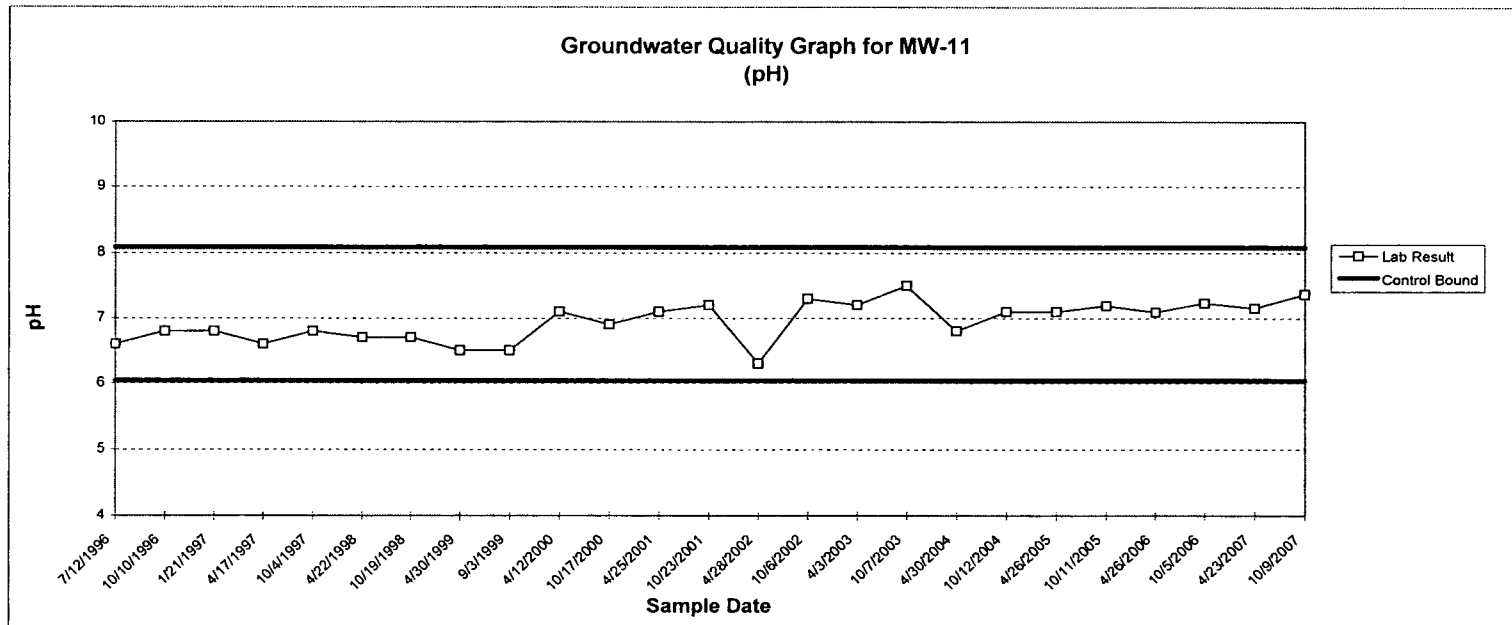
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-11

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



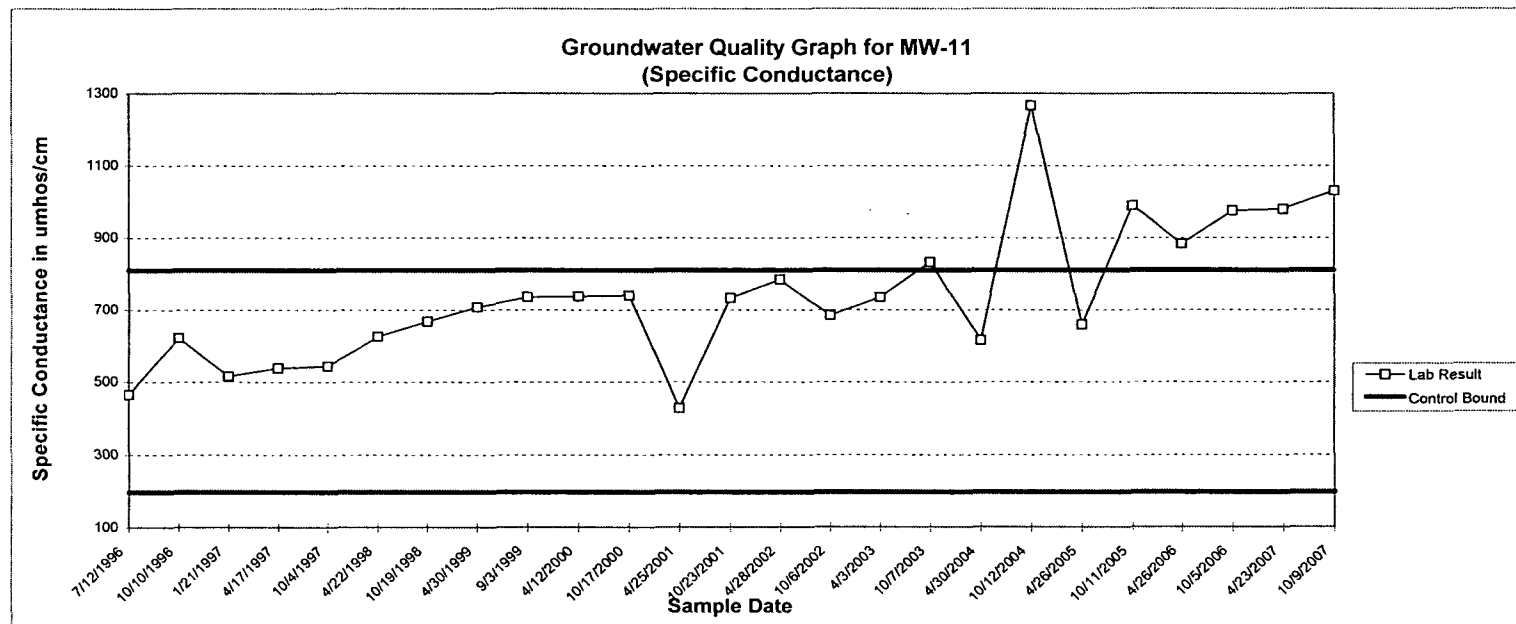
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-11

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-10

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-10 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-10 Standard Deviation	MW-10 Mean											
	via MW-17	via MW-17			8/9/1996	10/10/1996	1/21/1997	4/17/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	4.849	21.55	13	14	15	22	19	19.6	20	21	21	18.6	19.7
Chemical Oxygen Demand (mg/l)	9.169	0.000	29.326	11.81	140.0	2.5	5.7	2.5	2.5	2.5	2.5	63	2.5	2.5	2.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.200	0.14	1.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.020	0.05	0.05	0.05	0.05	0.15	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.116	0.31	0.5	0.5	0.25	0.25	-	-	-	-	-	-	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	0.5	0.2	0.2	0.2	-	-	-	-	-	-	0.2
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	0.5	0.5	1.0	1.0	-	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.177	0.56	0.5	0.5	1.0	0.5	-	-	-	-	-	-	0.5
Phenols, Total (mg/l)	0.010	0.010	0.006	0.01	-	-	-	-	0.03	-	0.01	-	0.01	-	0.01
Total Organic Halogens (mg/l)	0.005	0.005	0.005	0.01	-	-	-	-	0.012	-	0.019	-	0.013	-	0.011
<b>Field Parameters</b>															
pH	8.1	6.0	0.415	6.81	8.1	6.7	6.8	6.5	6.5	6.4	6.5	6.4	6.3	6.3	6.4
Specific Conductance (µs/cm)	809	198	154.037	729.80	787	695	625	724	644	684	742	713	774	700	729

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-10

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-10 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-10 Standard Deviation	MW-10 Mean	4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
	via MW-17	via MW-17														
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	4.849	21.55	16.7	18.6	17.9	17.8	23	23.6	24	26.2	28.1	28.7	26.2	25.1
Chemical Oxygen Demand (mg/l)	9.169	0.000	29.326	11.81	2.5	2.5	5.7	6.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	11.3
Ammonia Nitrogen (mg/l)	0.100	0.100	0.200	0.14	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.020	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.116	0.31	0.25	0.25	-	-	-	0.25	-	-	-	-	-	-
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	0.2	0.2	-	-	-	0.2	-	-	-	-	-	-
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	-	-	-	-	-	1.0	-	-	-	-	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.177	0.56	0.5	0.5	-	-	-	0.5	-	-	-	-	-	-
Phenols, Total (mg/l)	0.010	0.010	0.006	0.01	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.0217	-
Total Organic Halogens (mg/l)	0.005	0.005	0.005	0.01	-	0.005	0.005	0.012	0.005	-	0.005	-	0.005	-	0.005	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.4	6.8	7.0	6.9	6.5	7.1	7.0	7.3	6.6	7.0	6.8	6.7	6.9	7.0
Specific Conductance (µs/cm)	809	198	154	730	570	740	463	645	753	550	693	532	575	1051	879	972

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (quantitative limit) for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-10

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-10 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-10 Standard Deviation	MW-10 Mean	4/23/2007	10/9/2007										
	via MW-17	via MW-17														
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	4.849	21.55	28.8	31.1										
Chemical Oxygen Demand (mg/l)	9.169	0.000	29.326	11.81	12.1	8.0										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.200	0.14	0.1	0.1										
Iron, dissolved (mg/l)	0.050	0.050	0.020	0.05	0.05	0.05										
Benzene (µg/l)	0.250	0.250	0.116	0.31	-	-										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.106	0.24	-	-										
1,1-Dichloroethene (µg/l)	1.000	1.000	0.274	0.80	-	-										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	-	-										
Trichloroethene (µg/l)	0.500	0.500	0.177	0.56	-	-										
Phenols, Total (mg/l)	0.010	0.010	0.006	0.01	0.01	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.005	0.01	0.005	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.4	6.8	7.0	7.51										
Specific Conductance (µs/cm)	809	198	154	730	943	1062										

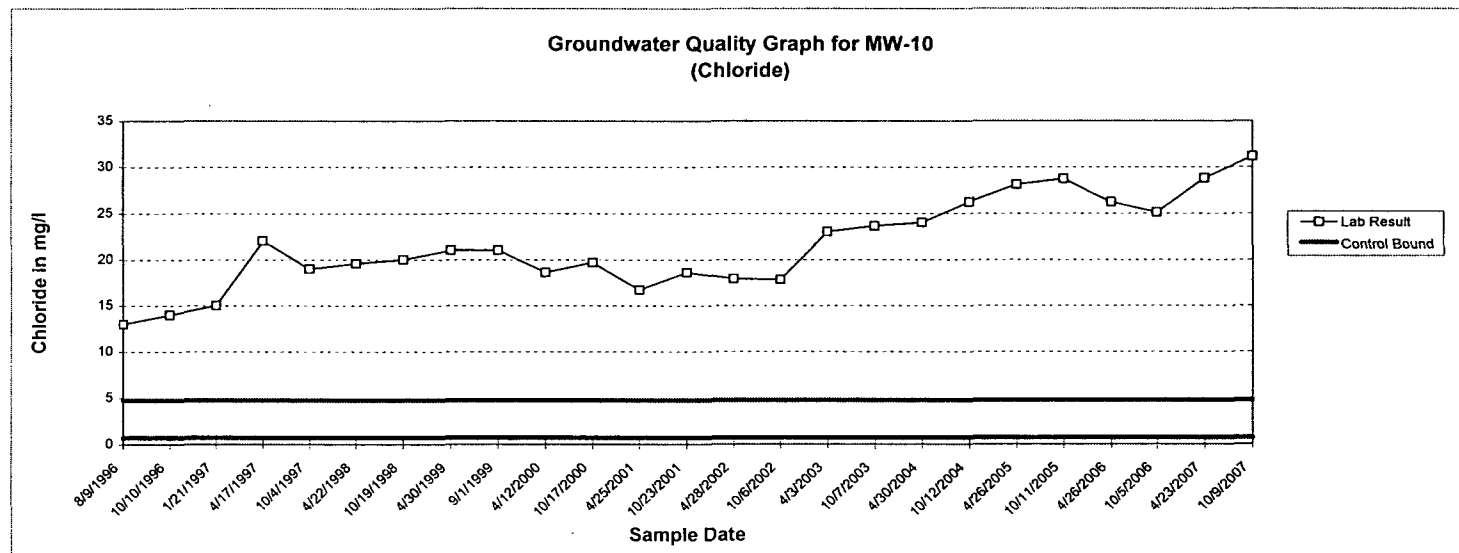
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (quantitative limit) for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MVV-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

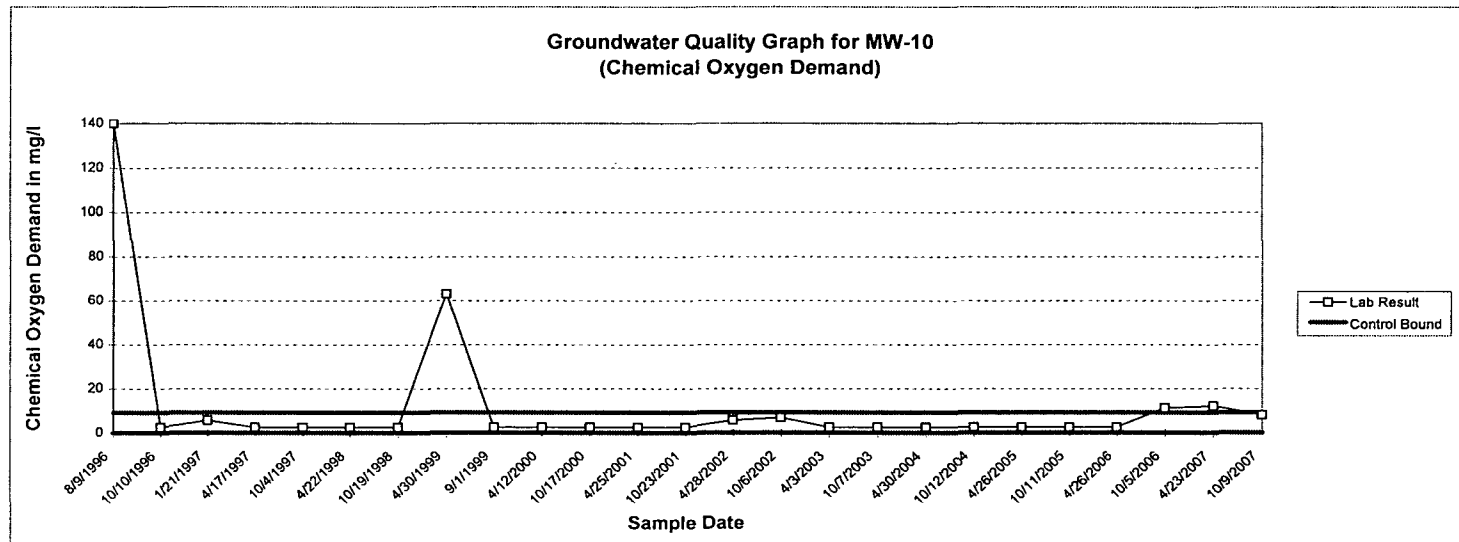
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



# ANALYSIS SHEET MW-10

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



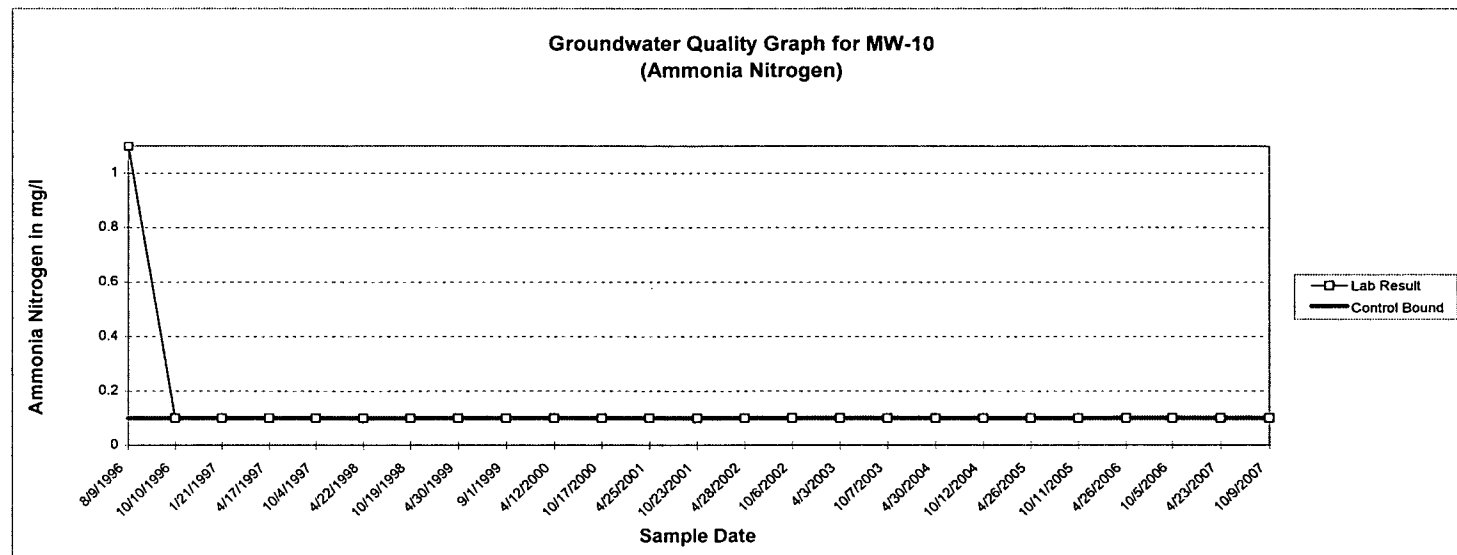
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

# ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



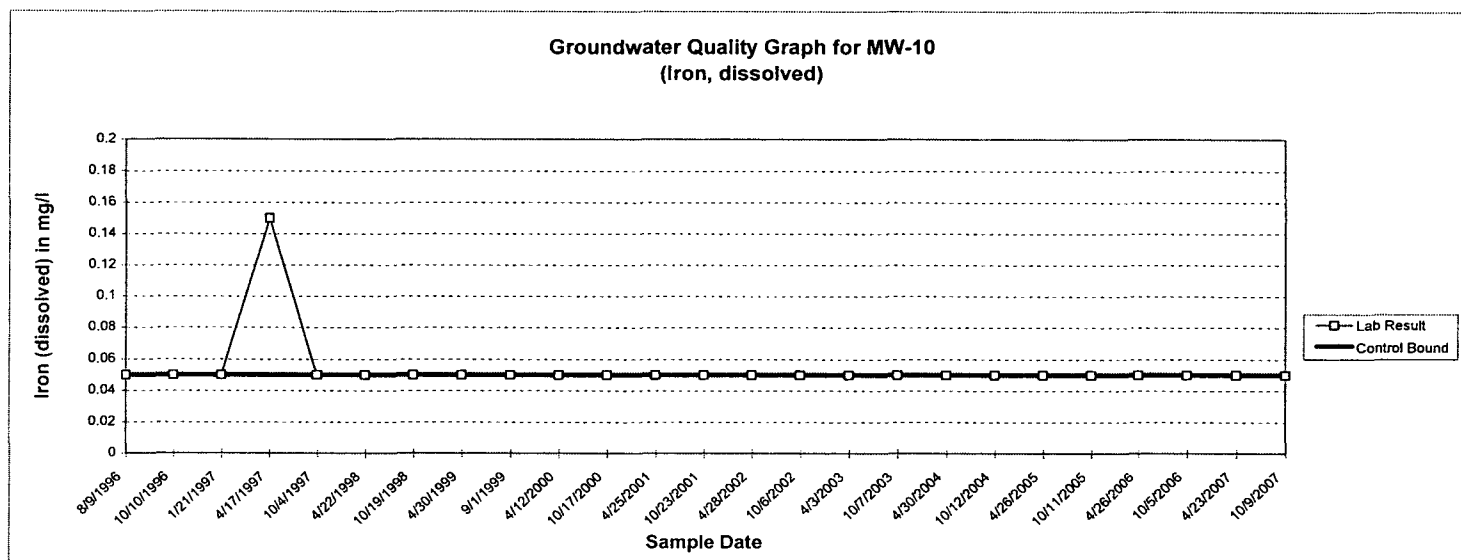
### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



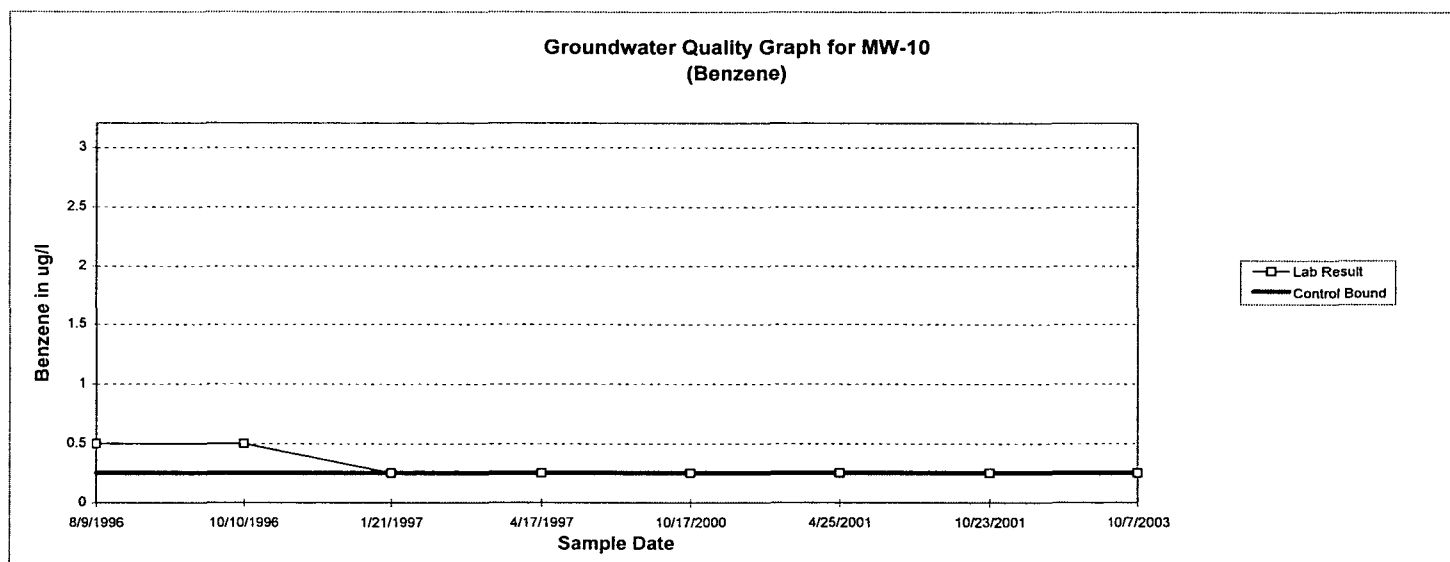
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



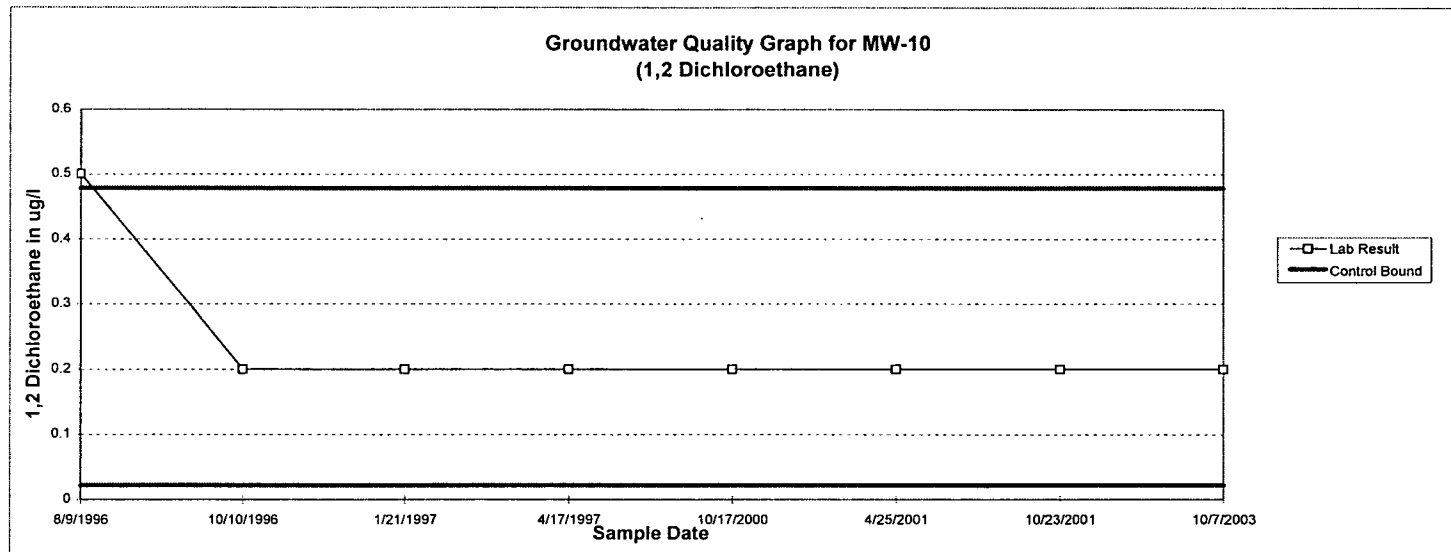
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



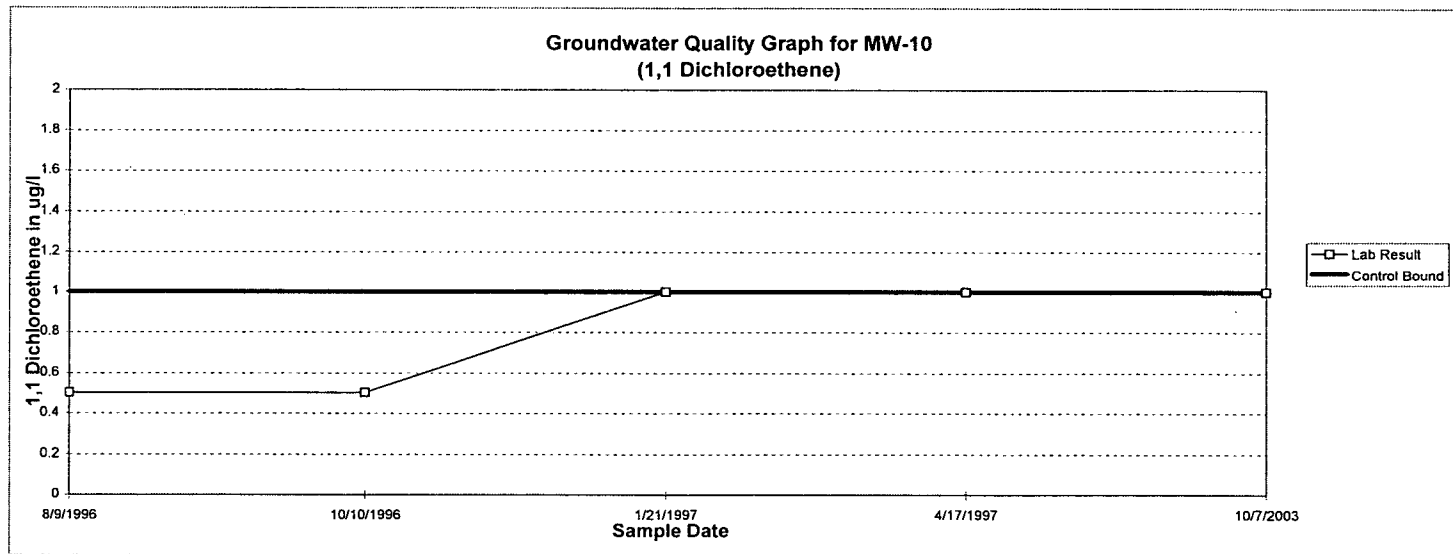
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



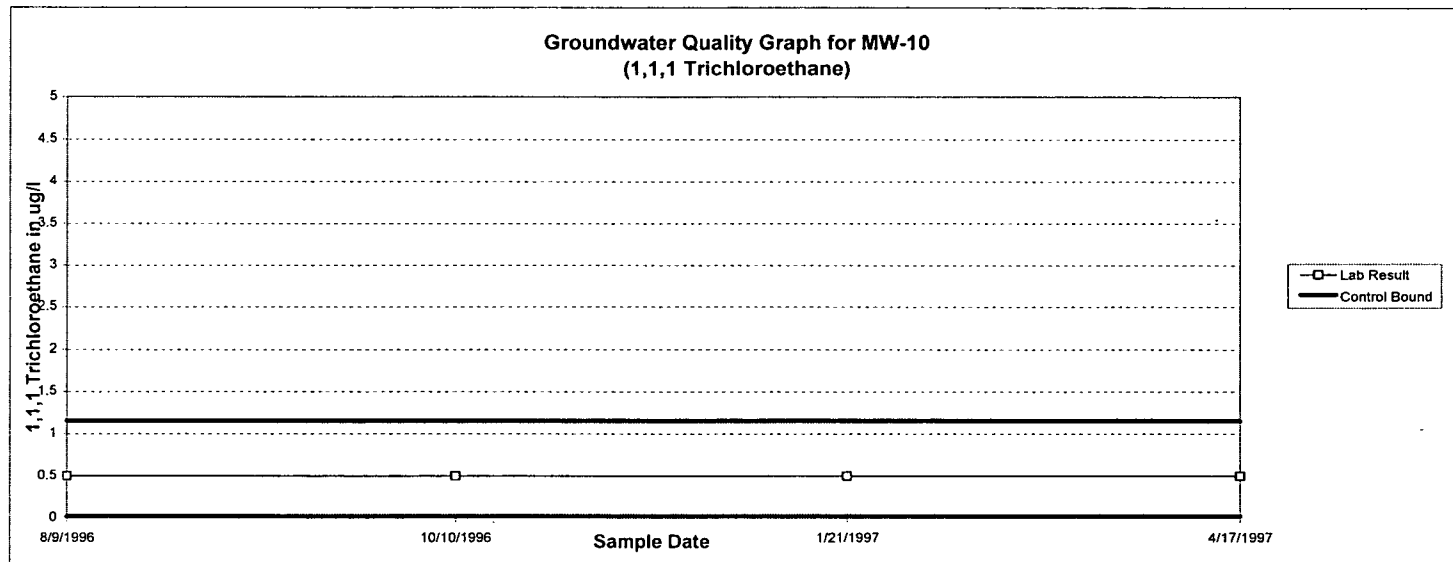
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



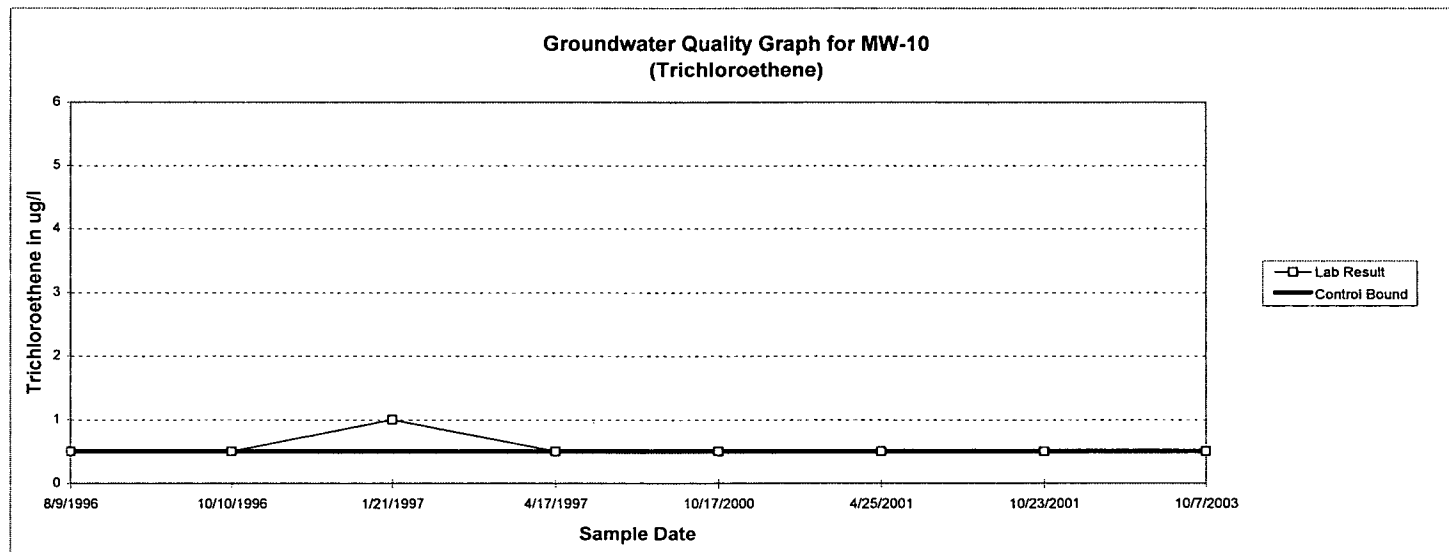
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

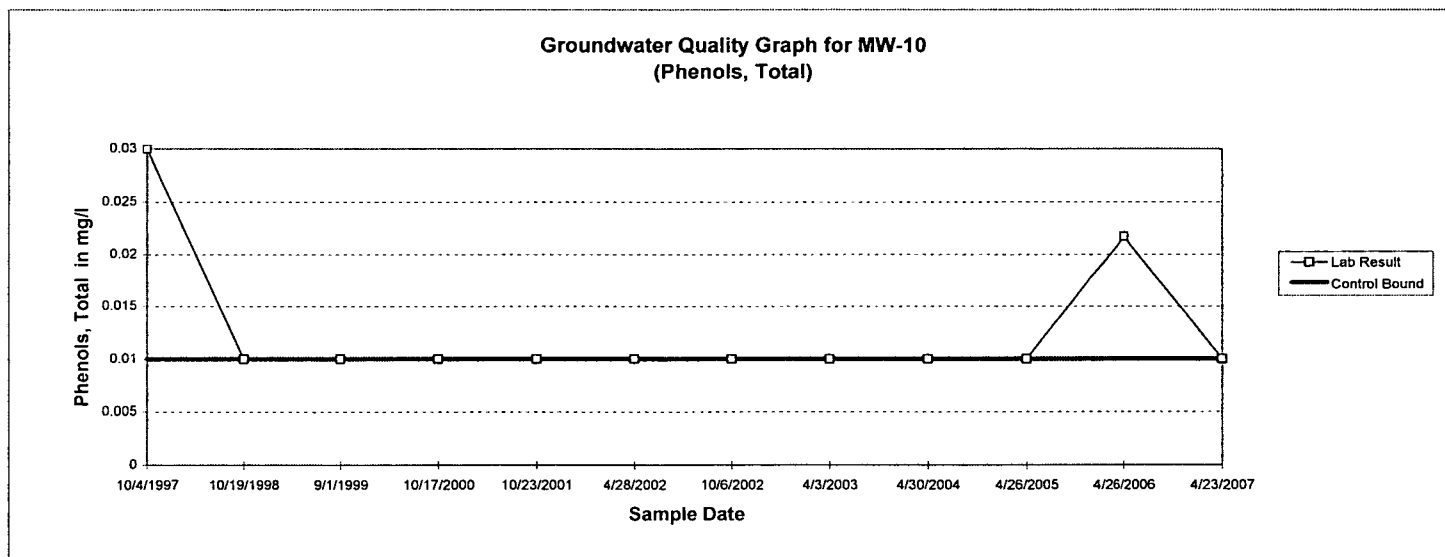
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

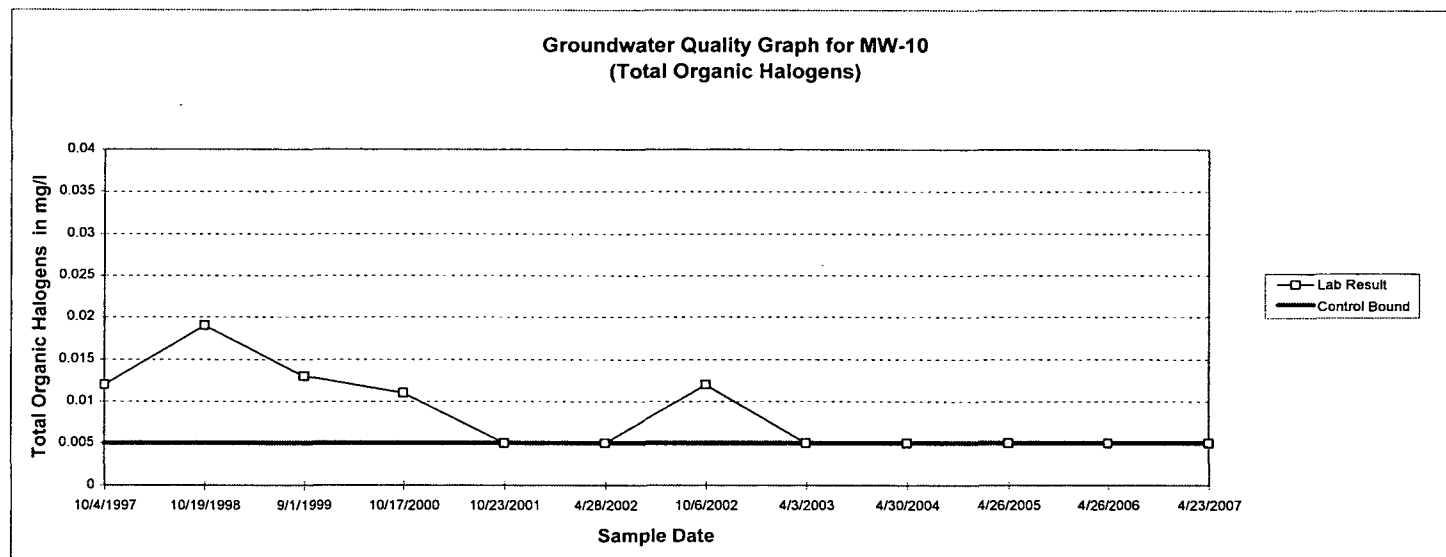


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



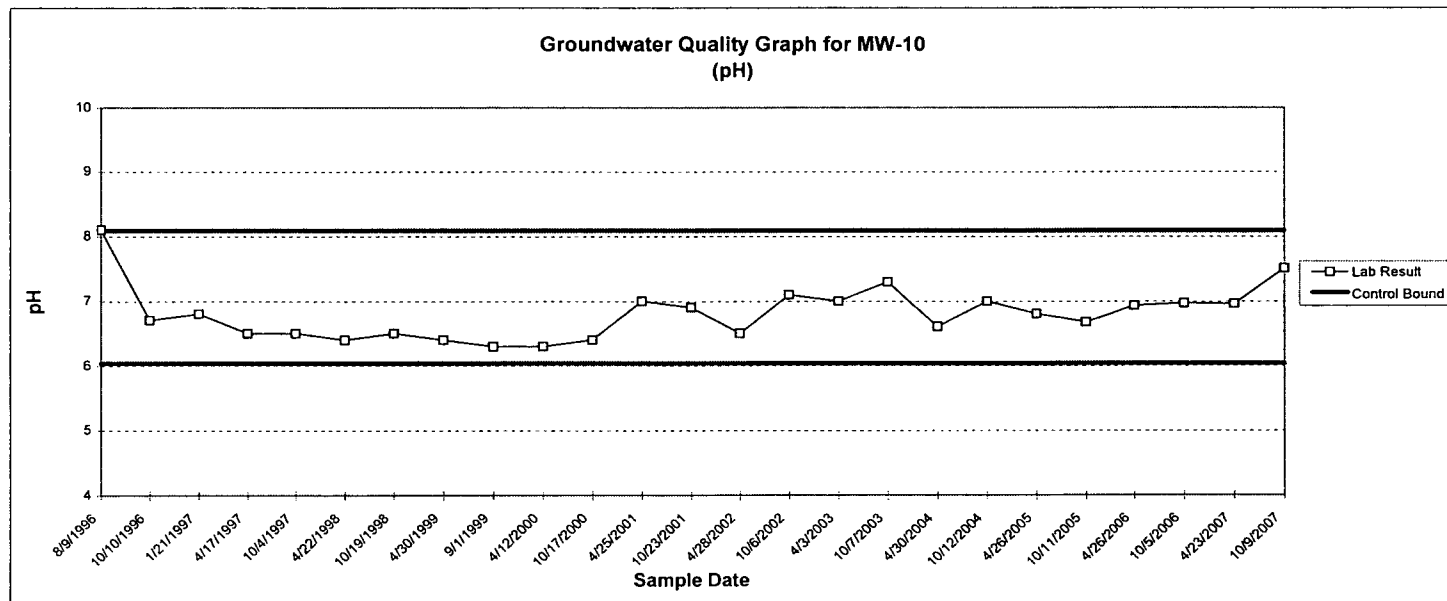
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-10

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



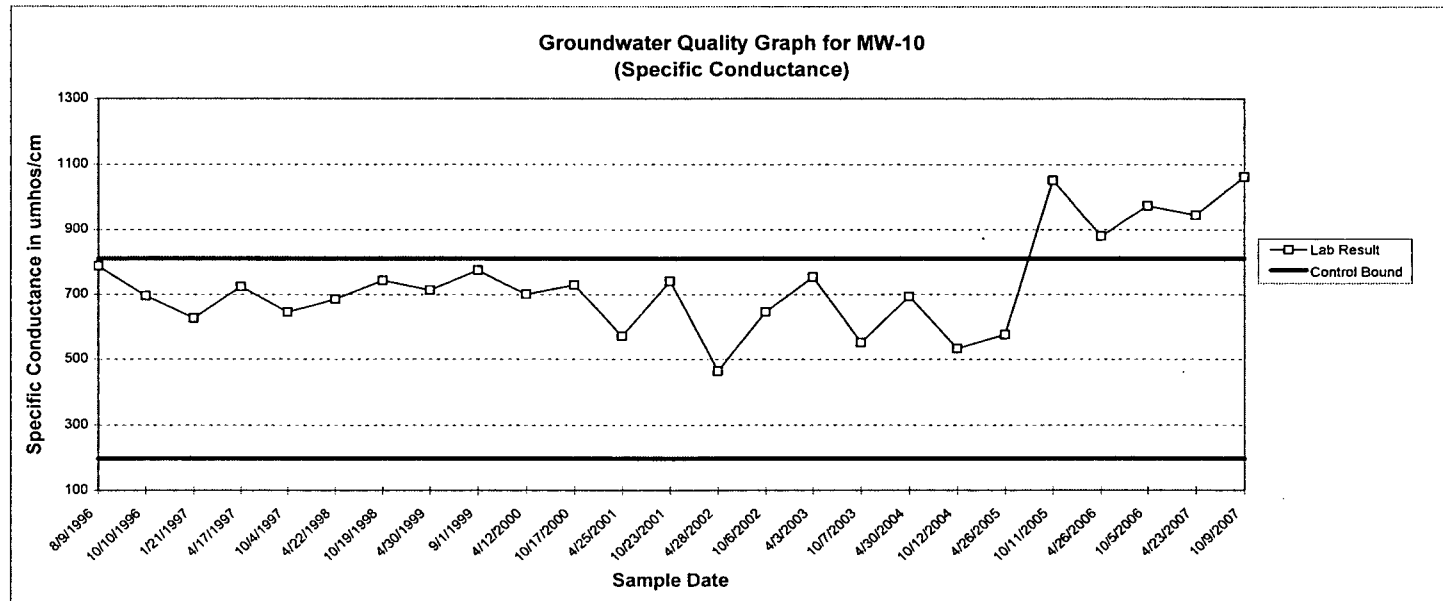
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-10

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-9

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-9 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-9 Standard	MW-9 Mean											
	via MW-17	via MW-17	Deviation		10/10/1996	1/21/1997	4/17/1997	7/15/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	1.361	9.564	8.7	10	11	12	11	11.3	11	9.7	10	-	-
Chemical Oxygen Demand (mg/l)	9.169	0.000	2.369	3.750	2.5	6.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	-	-
Ammonia Nitrogen (mg/l)	0.100	0.100	0.053	0.113	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	-
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	-	-
Benzene (µg/l)	0.250	0.250	0.063	0.266	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-	-
1,2-Dichloroethane (µg/l)	0.478	0.022	0.156	0.348	0.55	0.2	0.2	0.2	0.54	0.2	0.4	0.47	0.2	-	-
1,1-Dichloroethene (µg/l)	1.000	1.000	0.129	0.967	0.5	1.0	1.0	1.0	1.0	1.0	1.0	-	1.0	-	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-
Phenols, Total (mg/l)	0.010	0.010	0.004	0.012	-	-	-	-	0.021	-	0.01	-	0.01	-	-
Total Organic Halogens (mg/l)	0.005	0.005	0.008	0.013	-	-	-	-	0.018	-	0.005	-	0.027	-	-
<b>Field Parameters</b>															
pH	8.1	6.0	0.309	6.493	6.5	6.5	6	6.3	6.3	6.3	6.3	6.1	6.1	-	-
Specific Conductance (µs/cm)	809	198	244.084	890.688	895	787	882	922	887	900	956	992	992	-	-

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-9

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-9 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-9 Standard Deviation	MW-9 Mean	4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	1.361	9.564	-	-	-	-	-	-	-	8.9	7.9	8.4	8.07	8.8
Chemical Oxygen Demand (mg/l)	9.169	0.000	2.369	3.750	-	-	-	-	-	-	-	2.5	6.2	2.5	2.5	7.7
Ammonia Nitrogen (mg/l)	0.100	0.100	0.053	0.113	-	-	-	-	-	-	-	0.31	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	-	-	-	-	-	-	-	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.063	0.266	-	-	-	-	-	-	-	0.25	0.25	0.25	0.25	0.25
1,2-Dichloroethane (µg/l)	0.478	0.022	0.156	0.348	-	-	-	-	-	-	-	0.2	0.2	0.2	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.129	0.967	-	-	-	-	-	-	-	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	-	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	-	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5
Phenols, Total (mg/l)	0.010	0.010	0.004	0.012	-	-	-	-	-	-	-	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.008	0.013	-	-	-	-	-	-	-	-	0.005	-	0.01	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.5	-	-	-	-	-	-	-	6.9	6.5	7.0	6.7	6.84
Specific Conductance (µs/cm)	809	198	244	891	-	-	-	-	-	-	-	527	146	1128	1054	1058

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-9

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS TERRACON PROJECT NO. 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-9 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

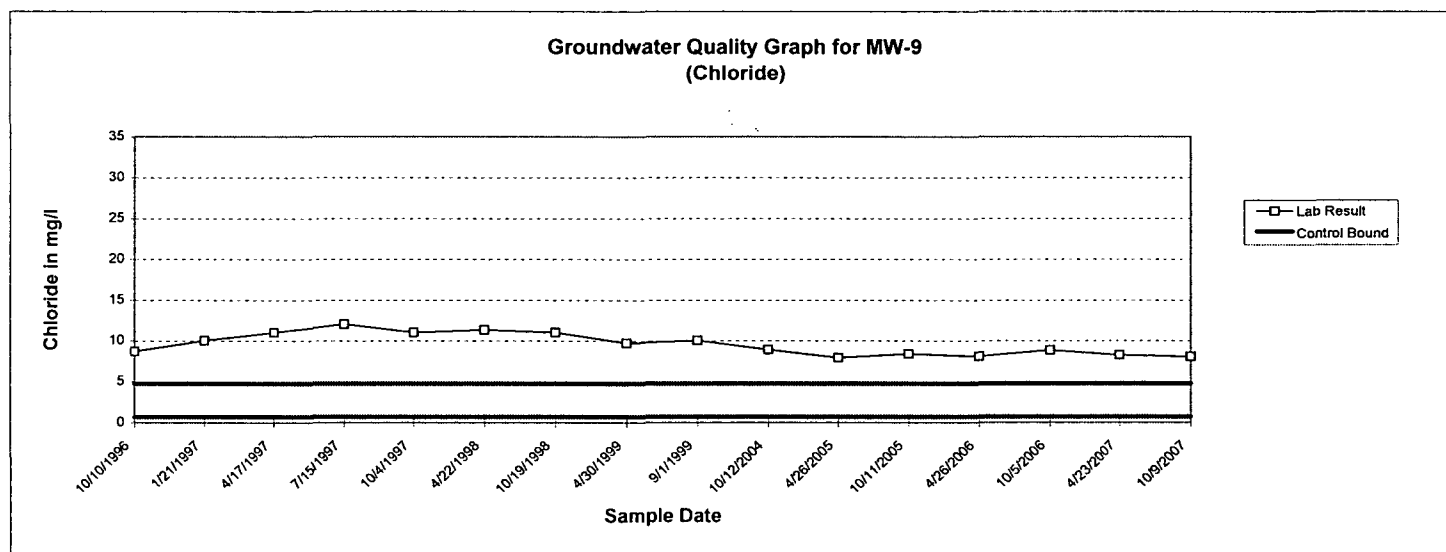
PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-9 Standard Deviation	MW-9 Mean	4/23/2007	10/9/2007										
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	1.361	9.564	8.24	8.02										
Chemical Oxygen Demand (mg/l)	9.169	0.000	2.369	3.750	9.90	2.50										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.053	0.113	0.10	0.10										
Iron, dissolved (mg/l)	0.050	0.050	0.000	0.050	0.05	0.05										
Benzene (µg/l)	0.250	0.250	0.063	0.266	0.25	0.25										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.156	0.348	0.50	0.50										
1,1-Dichloroethene (µg/l)	1.000	1.000	0.129	0.967	1.00	1.00										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	0.50	0.50										
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	0.50	0.50										
Phenols, Total (mg/l)	0.010	0.010	0.004	0.012	0.01	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.008	0.013	0.012	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.5	6.83	6.77										
Specific Conductance (µs/cm)	809	198	244	891	1069	1056										

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-9  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

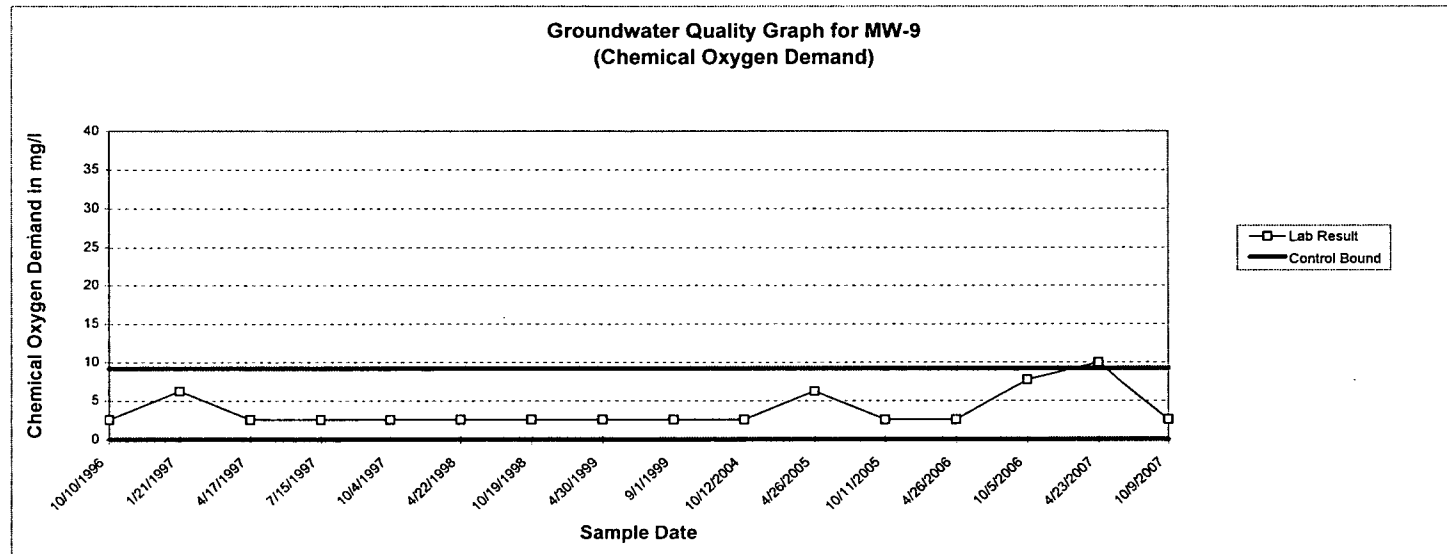
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

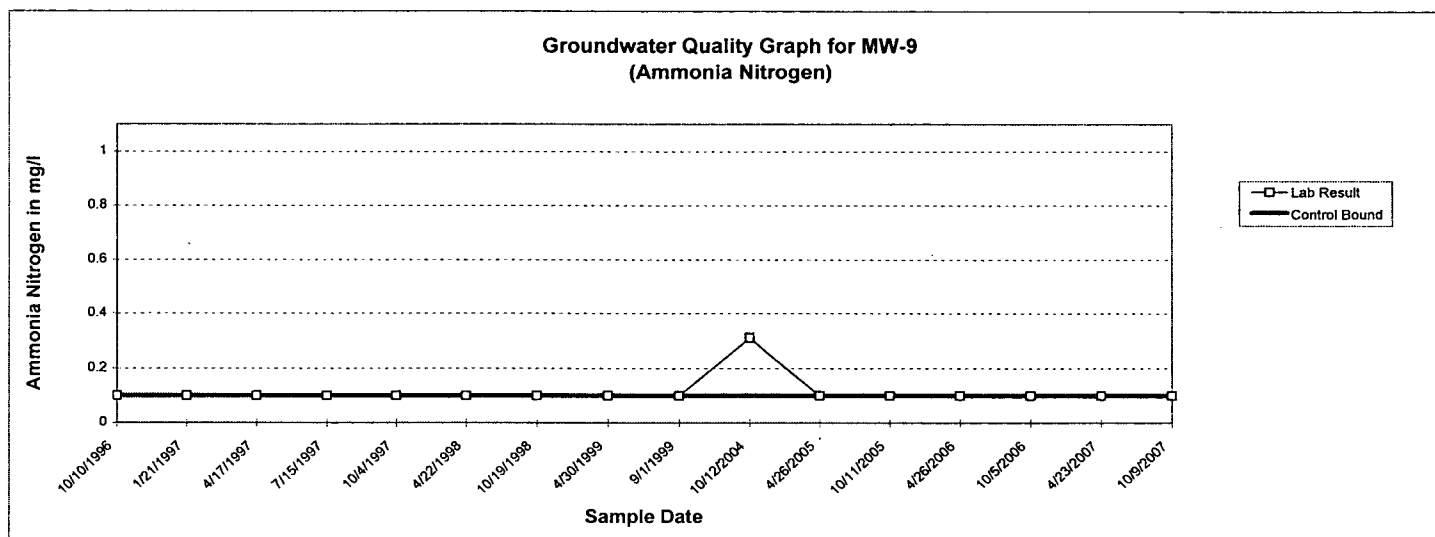


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



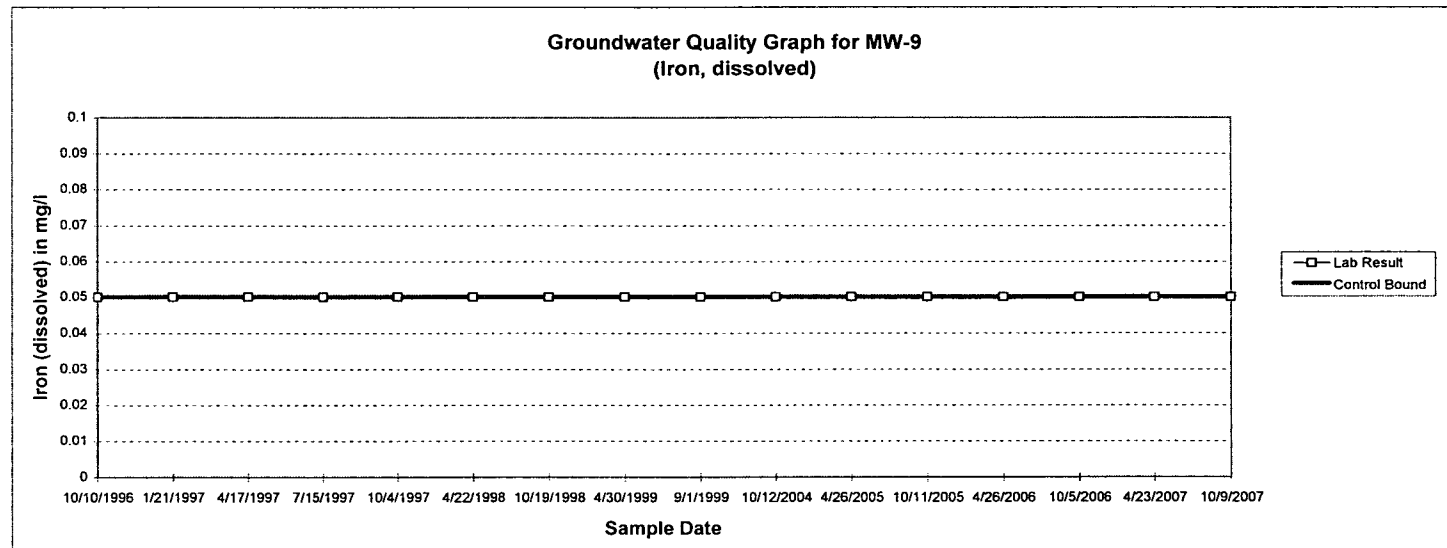
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



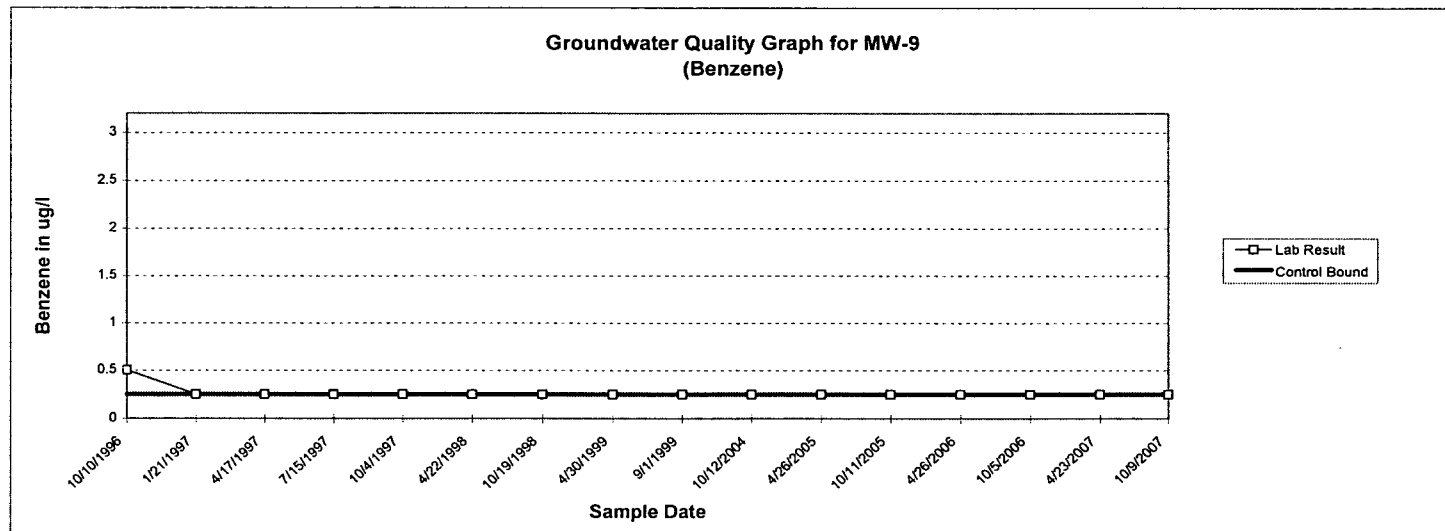
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

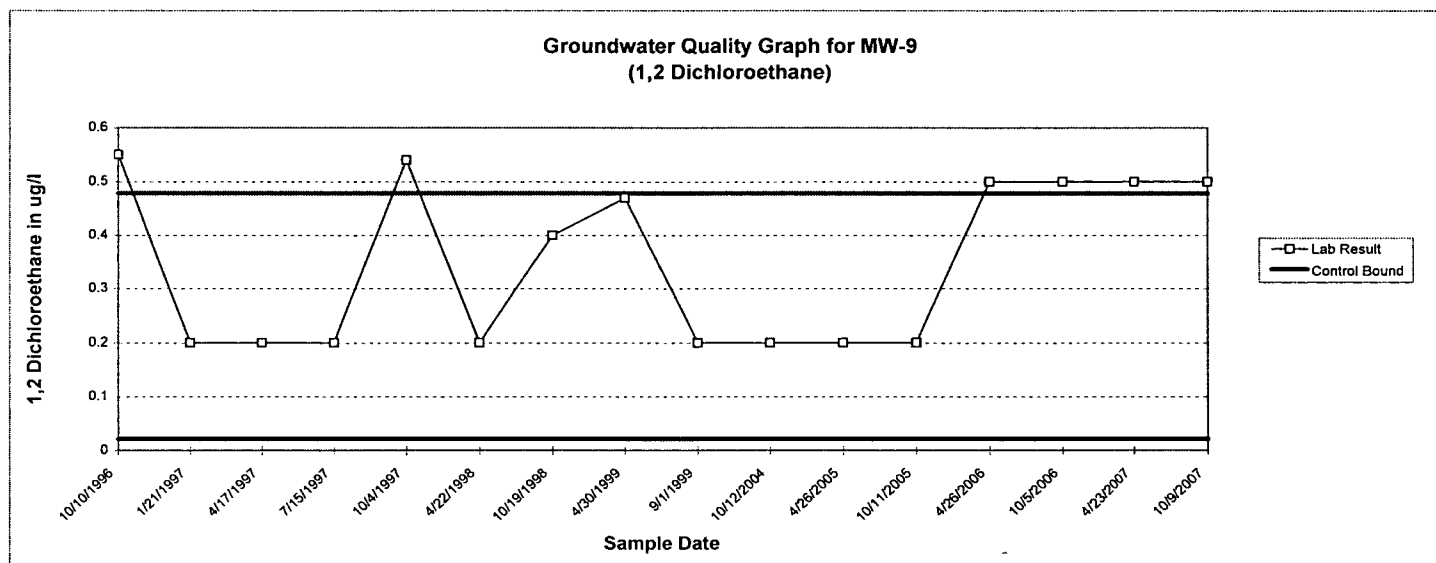


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

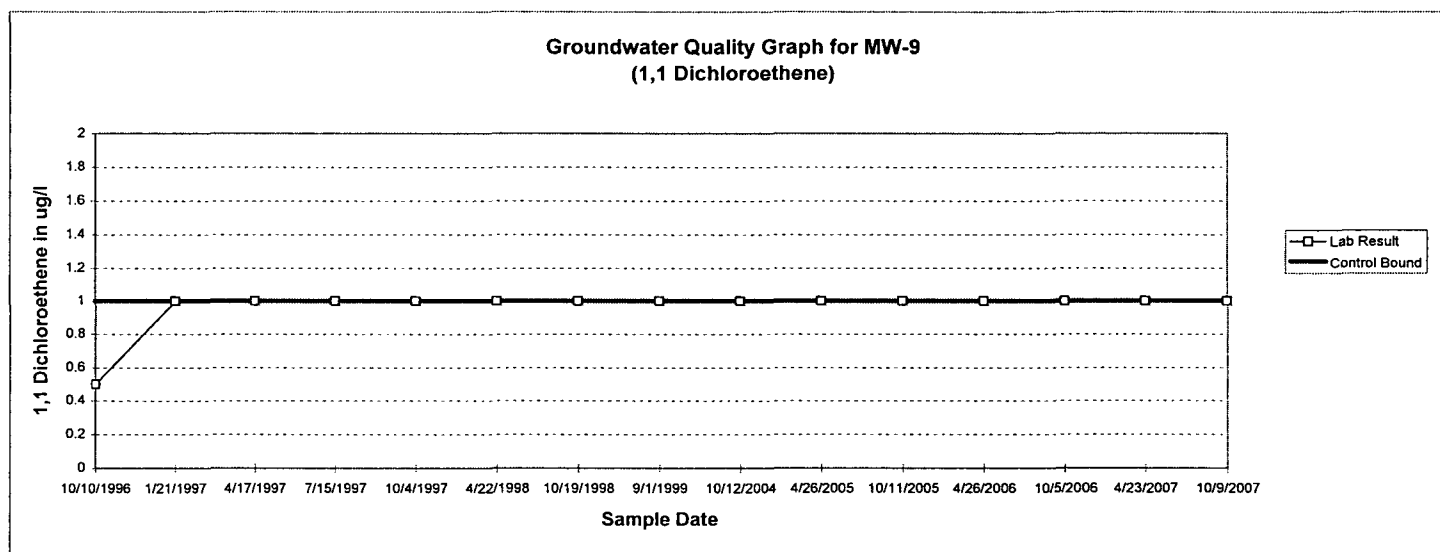


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



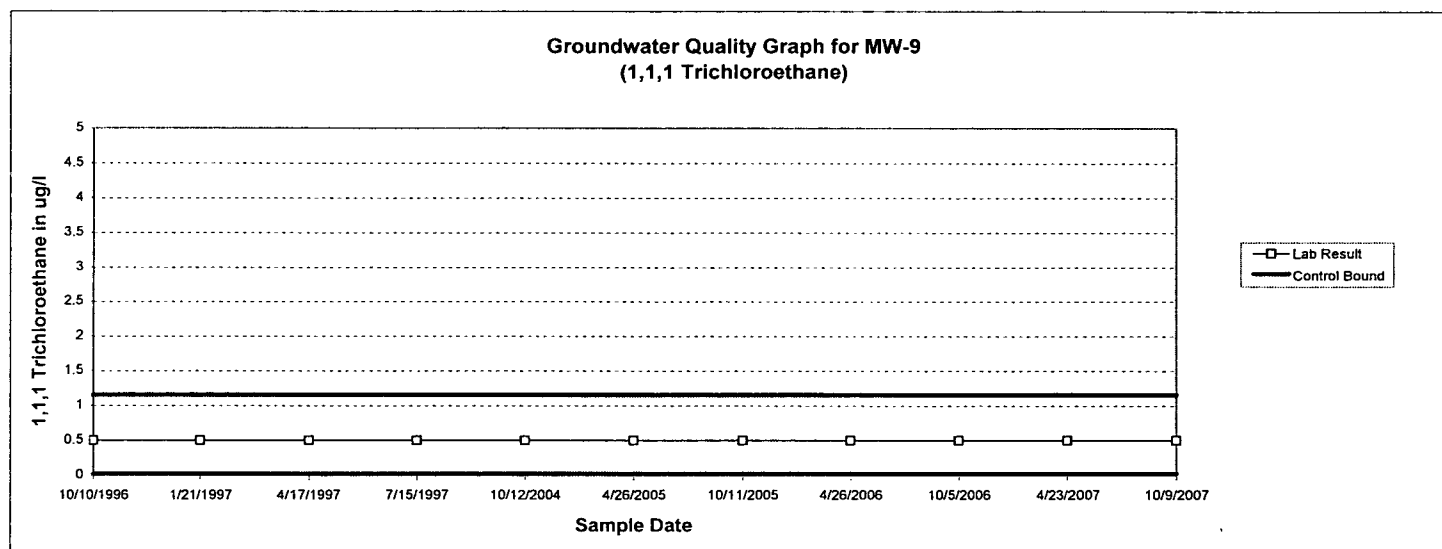
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

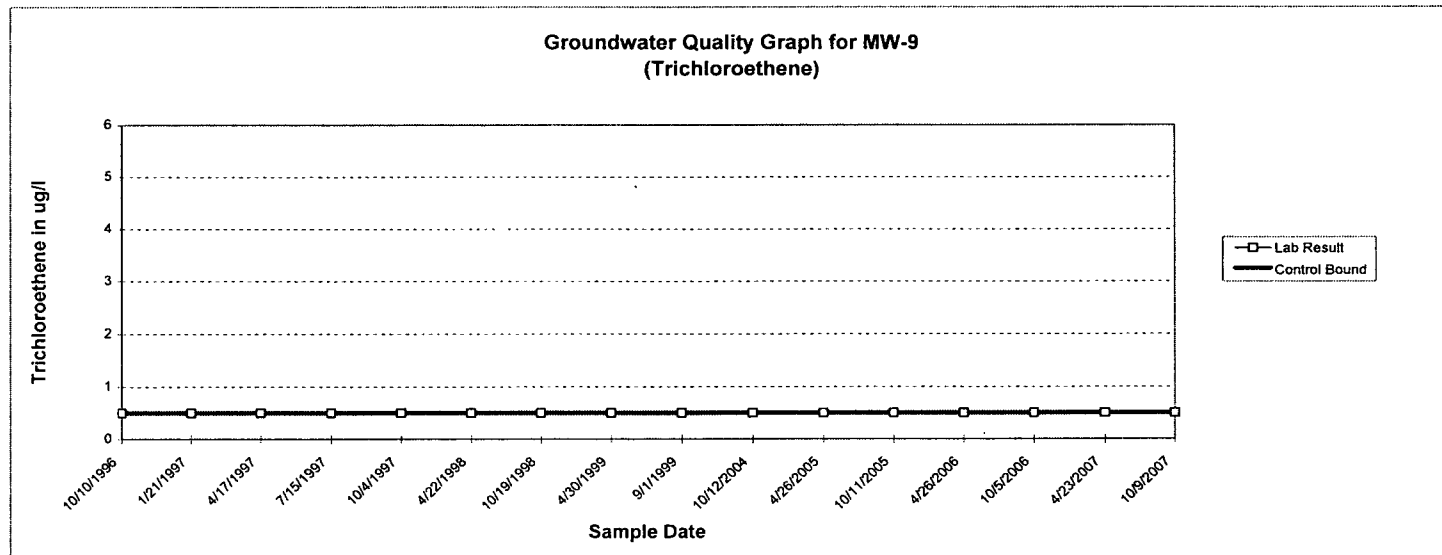


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

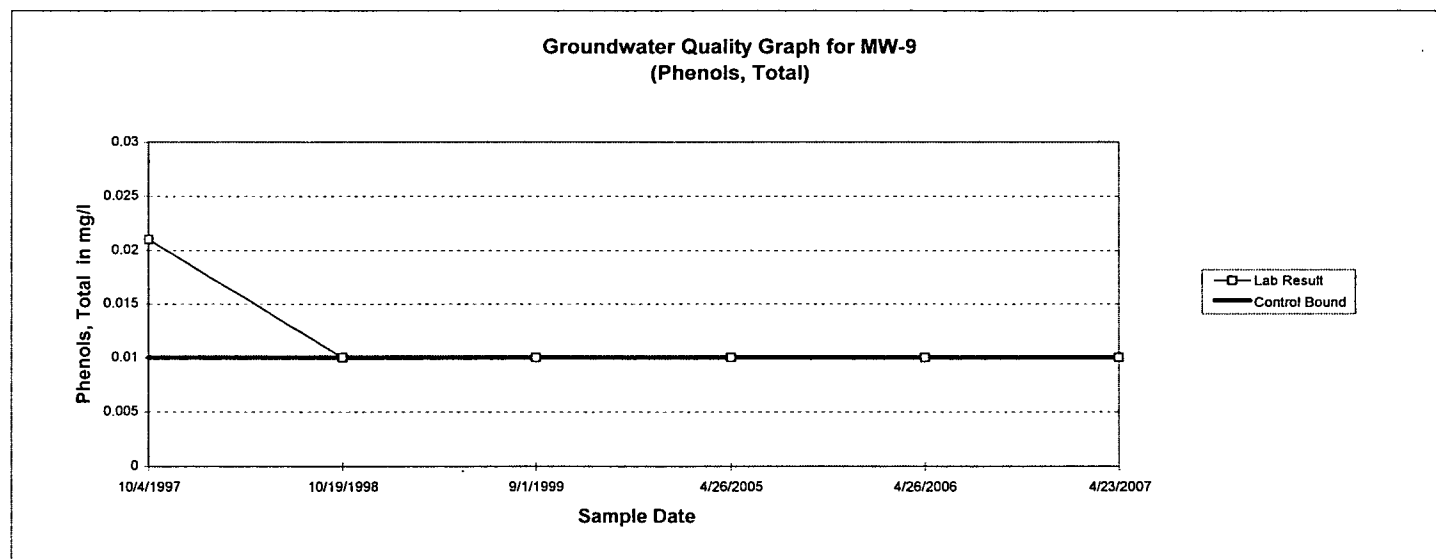
- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



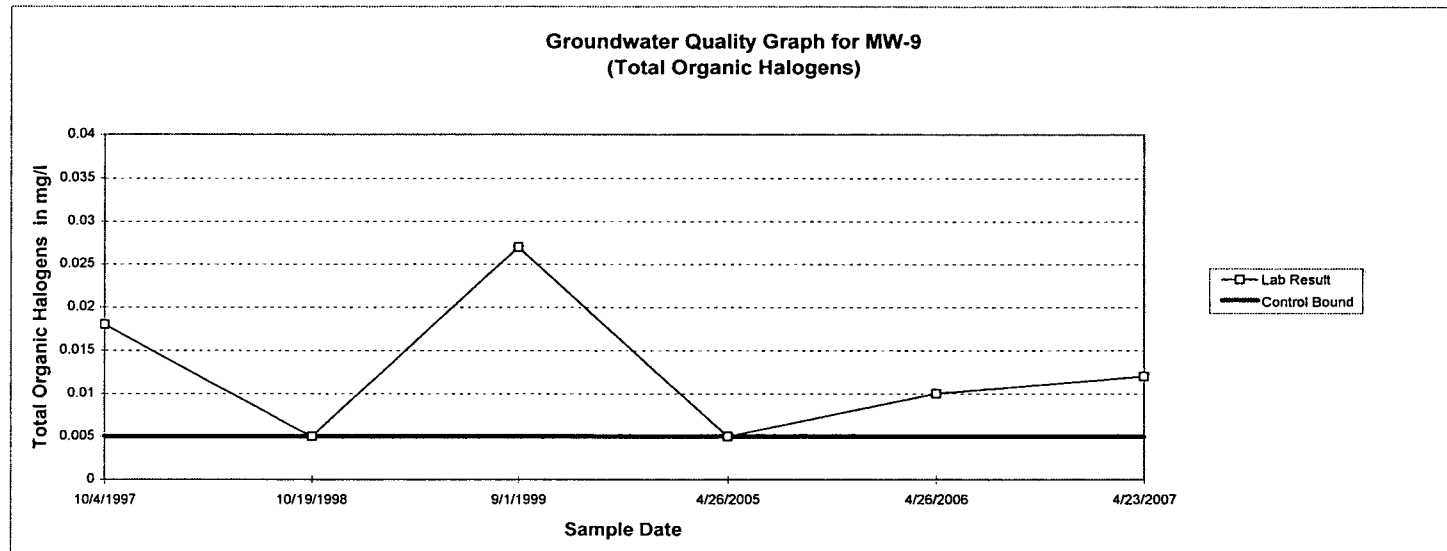
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

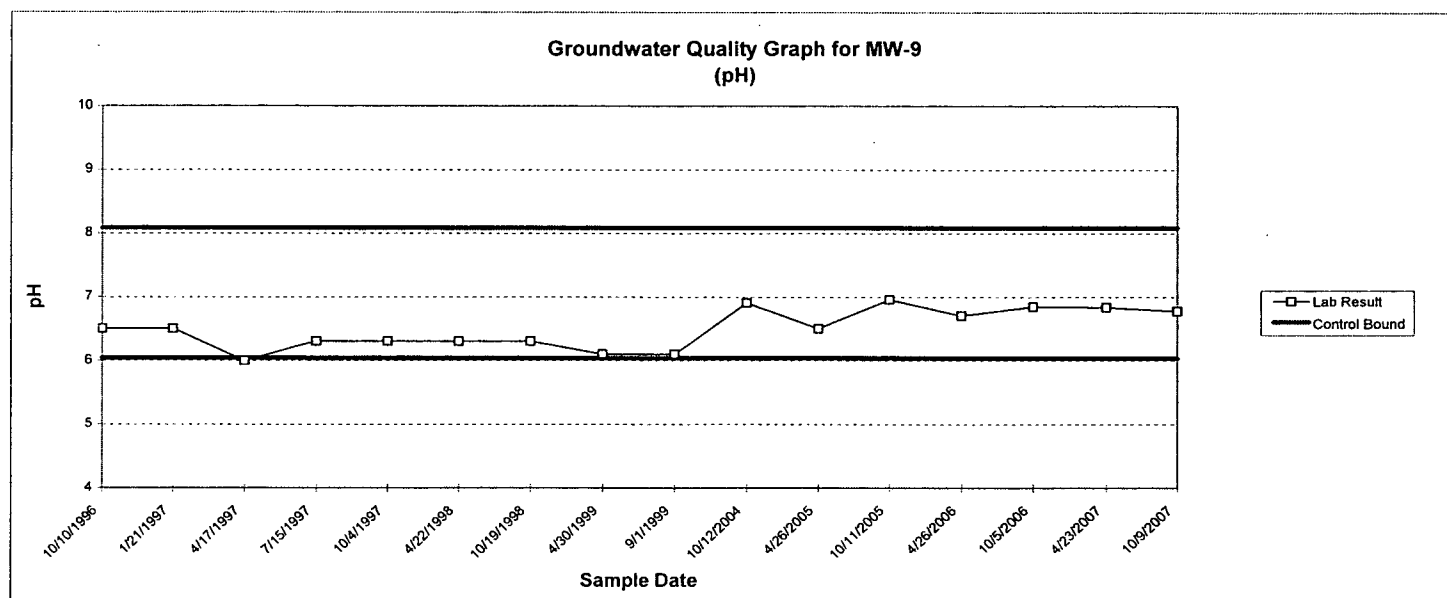


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

**ANALYSIS SHEET MW-9**  
**PLYMOUTH COUNTY LANDFILL**  
**GROUNDWATER SAMPLING AND ANALYSIS**  
**TERRACON PROJECT NO. 40905033**

**SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET**



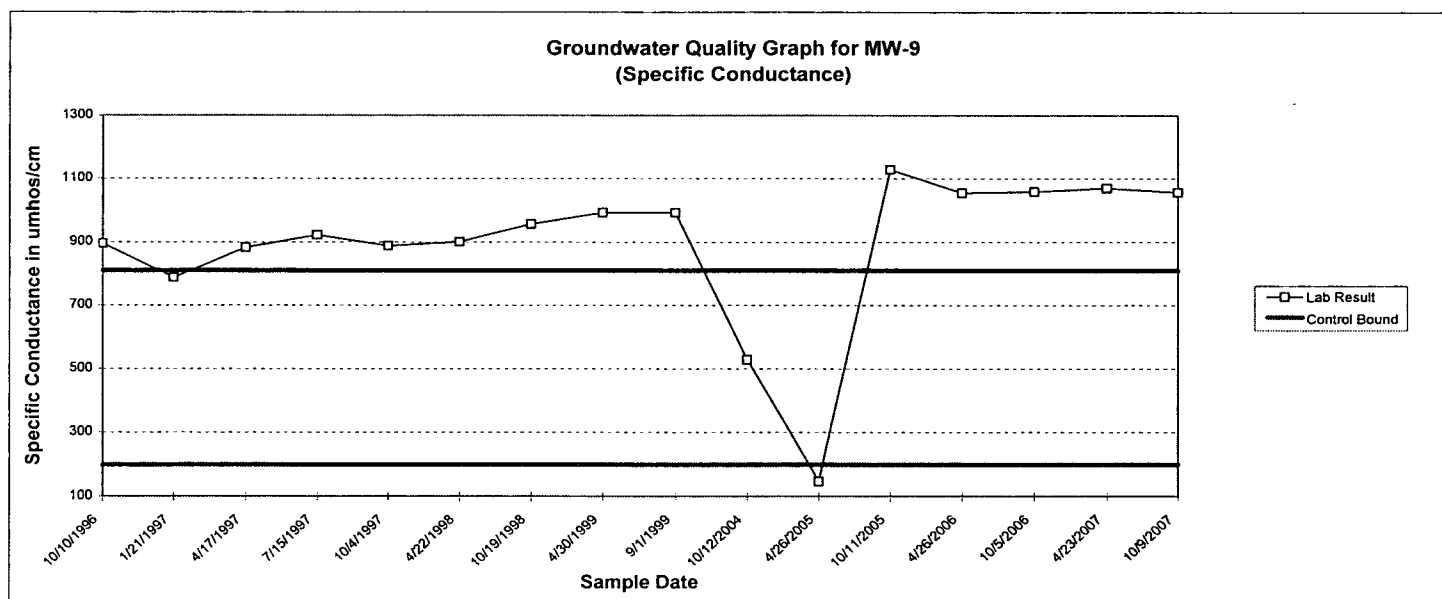
**NOTE:**

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-9

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
TERRACON PROJECT NO. 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-8

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-8** (Down-gradient)

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-8 Standard Deviation	MW-8 Mean	10/11/1996	1/21/1997	4/17/1997	7/15/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000
	via MW-17	via MW-17													
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	11.350	19.32	12	12	13	15	11	11	12	12	10	8.4	6.2
Chemical Oxygen Demand (mg/l)	9.169	0.000	3.464	4.61	<b>2.5</b>	7.9	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	5.0	<b>2.5</b>
Ammonia Nitrogen (mg/l)	0.100	0.100	0.041	0.11	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
Iron, dissolved (mg/l)	0.050	0.050	0.066	0.08	<b>0.05</b>	0.13	<b>0.05</b>	<b>0.05</b>	0.18	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	0.33	0.19	<b>0.05</b>
Benzene (µg/l)	0.250	0.250	0.666	0.85	2.8	2.2	<b>0.25</b>	1.2	1.53	1.1	1.3	1.3	1.0	0.72	0.95
1,2-Dichloroethane (µg/l)	0.478	0.022	0.841	2.07	3	2.8	<b>0.2</b>	2.8	2.8	3.3	2.6	3.4	2.3	3.0	2.1
1,1-Dichloroethene (µg/l)	1.000	1.000	2.880	1.63	14.2	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	-	<b>1.0</b>	<b>1.0</b>	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	6.277	9.59	21.4	20.8	18.6	17.1	15.6	16.4	16.1	14.1	11.8	9.8	9.8
Phenols, Total (mg/l)	0.010	0.010	0.003	0.01	-	-	-	-	0.022	-	<b>0.01</b>	-	<b>0.01</b>	-	<b>0.01</b>
Total Organic Halogens (mg/l)	0.005	0.005	0.025	0.08	-	-	-	-	0.114	-	0.056	-	0.112	-	0.103
<b>Field Parameters</b>															
pH	8.1	6.0	0.346	6.52	6.6	6.4	6.2	6.3	6.2	6.3	6.2	6.1	5.9	5.8	6.2
Specific Conductance (µs/cm)	809	198	296.265	977.96	923	823	896	929	888	945	1003	1050	1092	970	942

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory detection limit (quantitative limit) for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-8

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-8 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-8 Standard Deviation	MW-8 Mean	4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
	via MW-17	via MW-17														
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	11.350	19.32	9.4	21.6	55.4	26.7	14.2	21.6	14.3	22.8	36.0	37.2	23.9	23
Chemical Oxygen Demand (mg/l)	9.169	0.000	3.464	4.61	2.5	2.5	5.6	11	2.5	8.2	2.5	2.5	6.6	5.2	2.5	10.5
Ammonia Nitrogen (mg/l)	0.100	0.100	0.041	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.21	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.066	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.666	0.85	0.25	0.25	0.25	0.25	0.8	0.25	0.25	0.25	0.25	0.55	1.08	0.94
1,2-Dichloroethane (µg/l)	0.478	0.022	0.841	2.07	2.7	2.3	1.9	1.61	0.2	1.55	1.39	1.21	1.3	1.97	1.93	1.83
1,1-Dichloroethene (µg/l)	1.000	1.000	2.880	1.63	-	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	6.277	9.59	7.8	7.3	6.4	7.0	9.5	5.02	5.97	4.06	3.61	3.29	1.46	2.61
Phenols, Total (mg/l)	0.010	0.010	0.003	0.01	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.025	0.08	-	0.075	0.077	0.072	0.074	-	0.026	-	0.071	-	0.0973	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.5	6.8	6.8	6.5	7	6.8	7.1	6.5	6.8	6.7	6.8	6.65	6.88
Specific Conductance (µs/cm)	809	198	296	978	1034	538	984	895	1060	1115	832	563	90	1529	1337	1351

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-8

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-8 (Down-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit via MW-17	Lower Control Limit via MW-17	MW-8 Standard Deviation	MW-8 Mean	4/23/2007	10/9/2007										
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	11.350	19.32	24.1	30.2										
Chemical Oxygen Demand (mg/l)	9.169	0.000	3.464	4.61	15.2	<b>2.50</b>										
Ammonia Nitrogen (mg/l)	0.100	0.100	0.041	0.11	0.275	<b>0.10</b>										
Iron, dissolved (mg/l)	0.050	0.050	0.066	0.08	<b>0.05</b>	<b>0.05</b>										
Benzene (µg/l)	0.250	0.250	0.666	0.85	<b>0.25</b>	1.24										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.841	2.07	1.67	1.86										
1,1-Dichloroethene (µg/l)	1.000	1.000	2.880	1.63	<b>1.00</b>	<b>1.00</b>										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.50	<b>0.5</b>	<b>0.50</b>										
Trichloroethene (µg/l)	0.500	0.500	6.277	9.59	1.73	2.47										
Phenols, Total (mg/l)	0.010	0.010	0.003	0.01	<b>0.01</b>	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.025	0.08	0.0838	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.3	6.5	6.63	6.85										
Specific Conductance (µs/cm)	809	198	296	978	1258	1402										

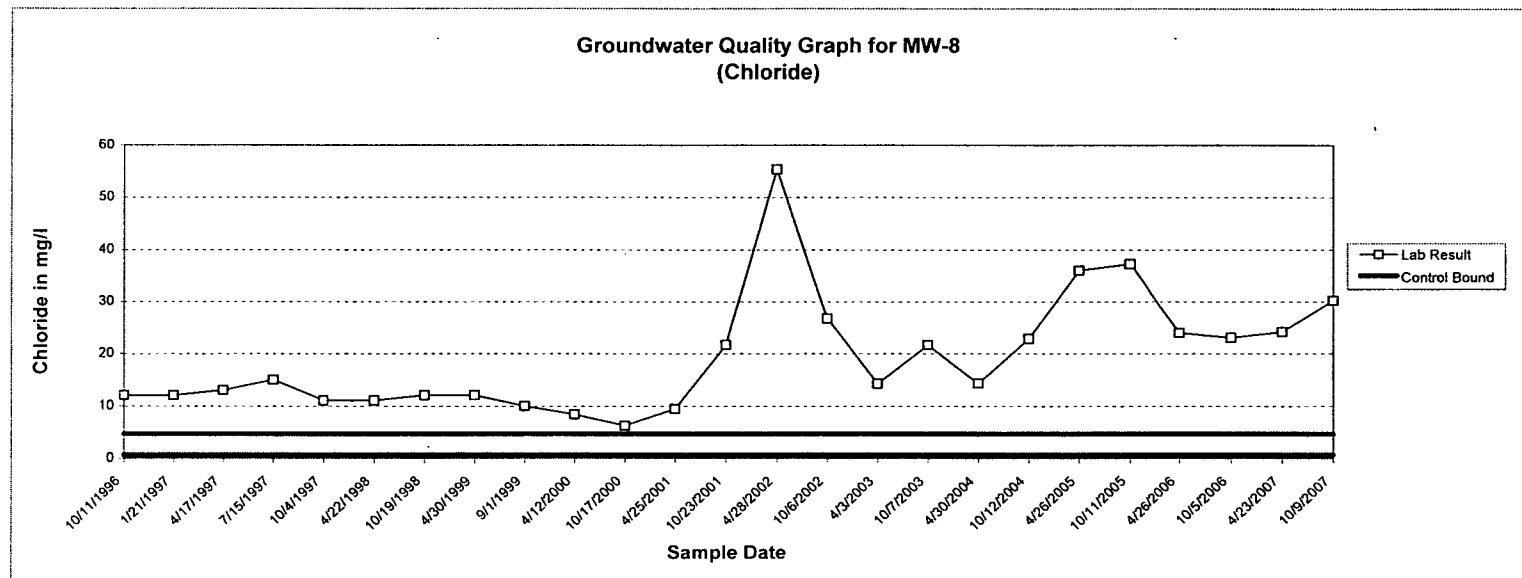
#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



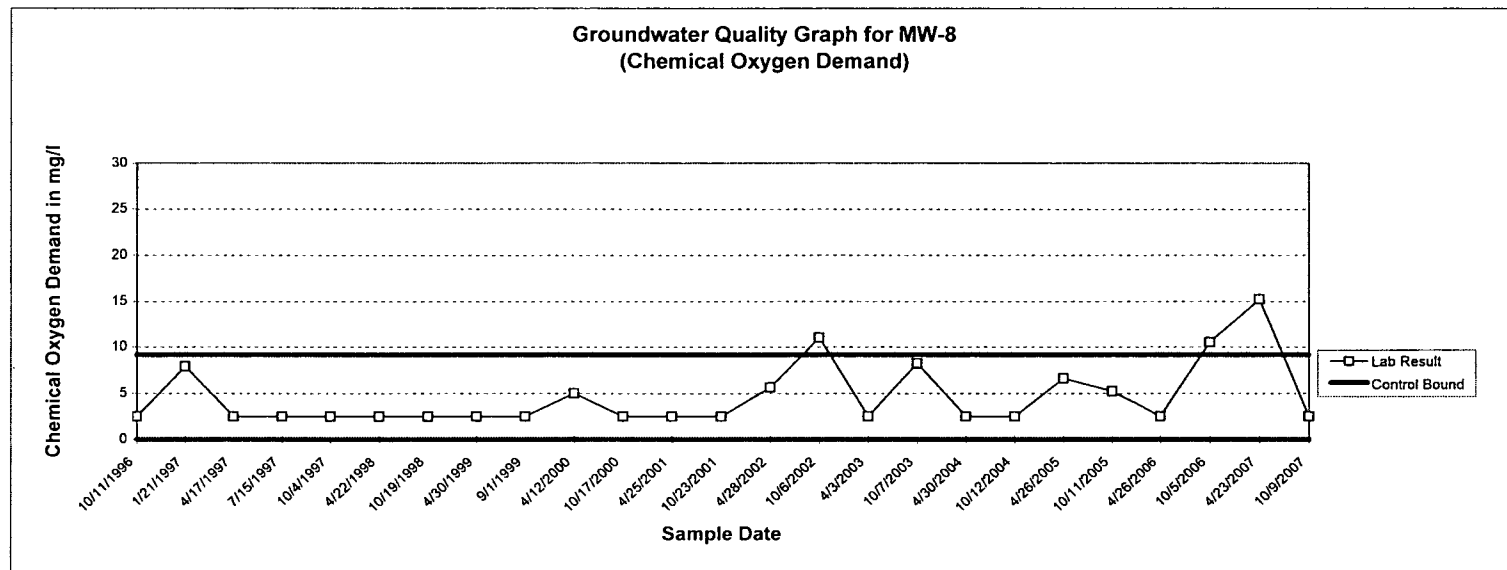
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.



ANALYSIS SHEET MW-8  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

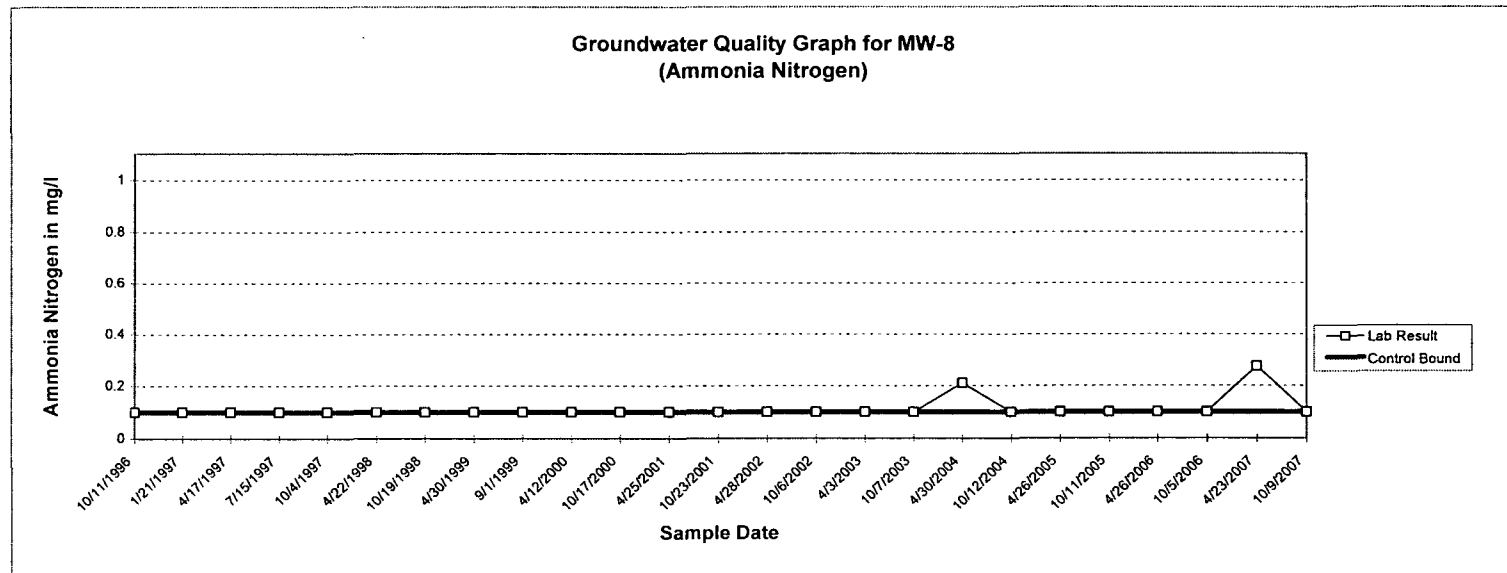


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-8  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

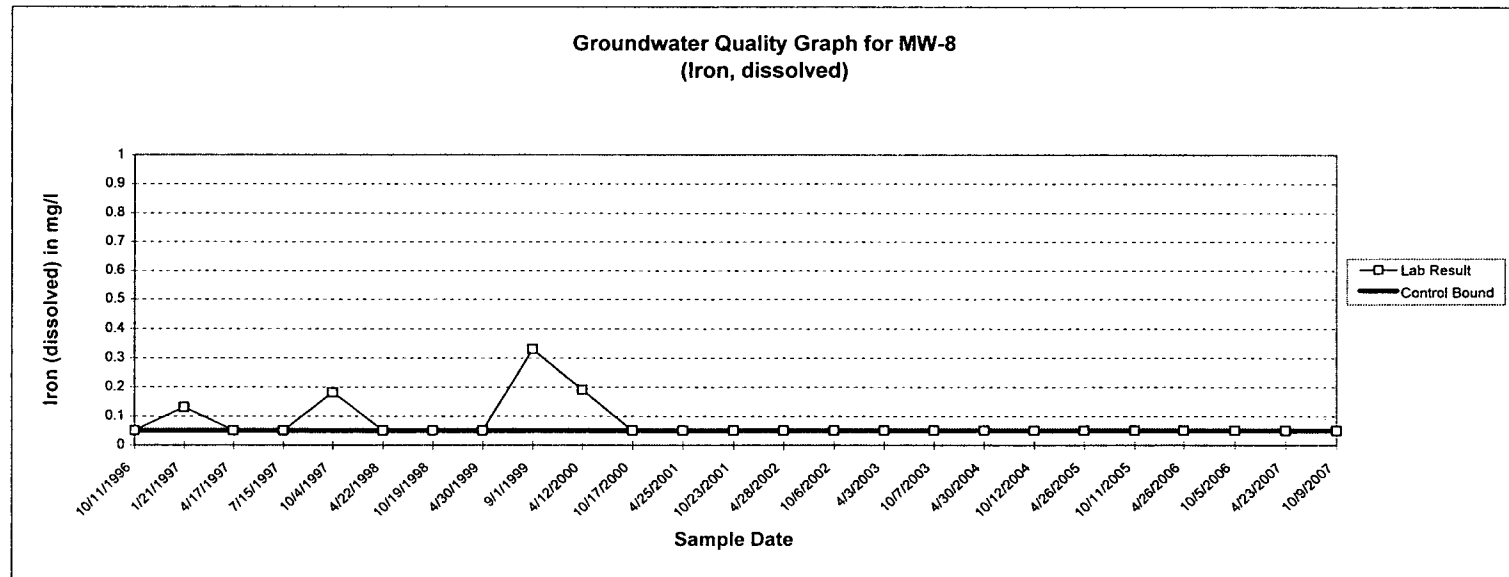


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-8  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



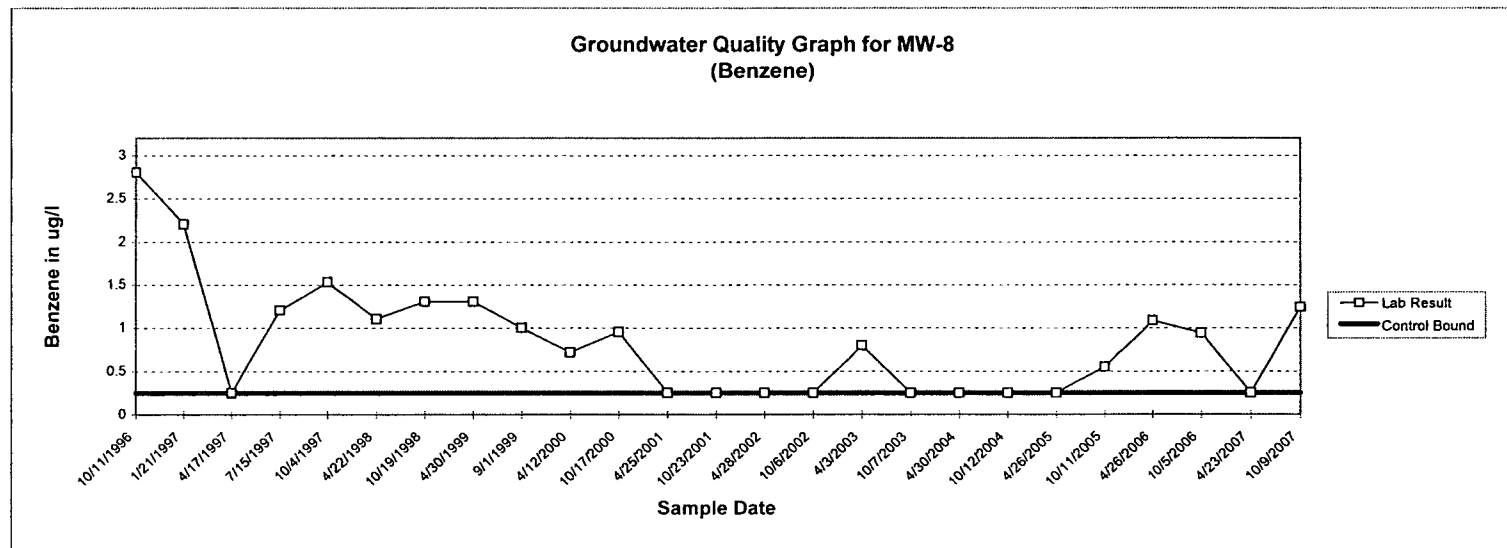
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



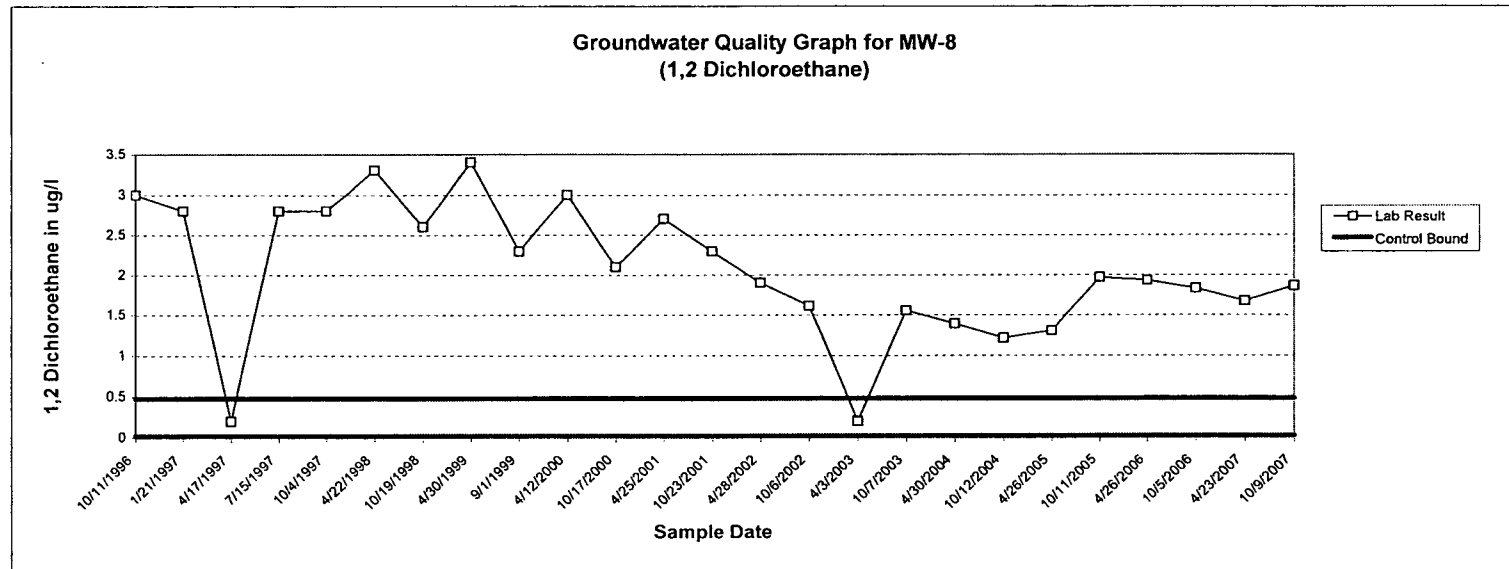
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
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ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



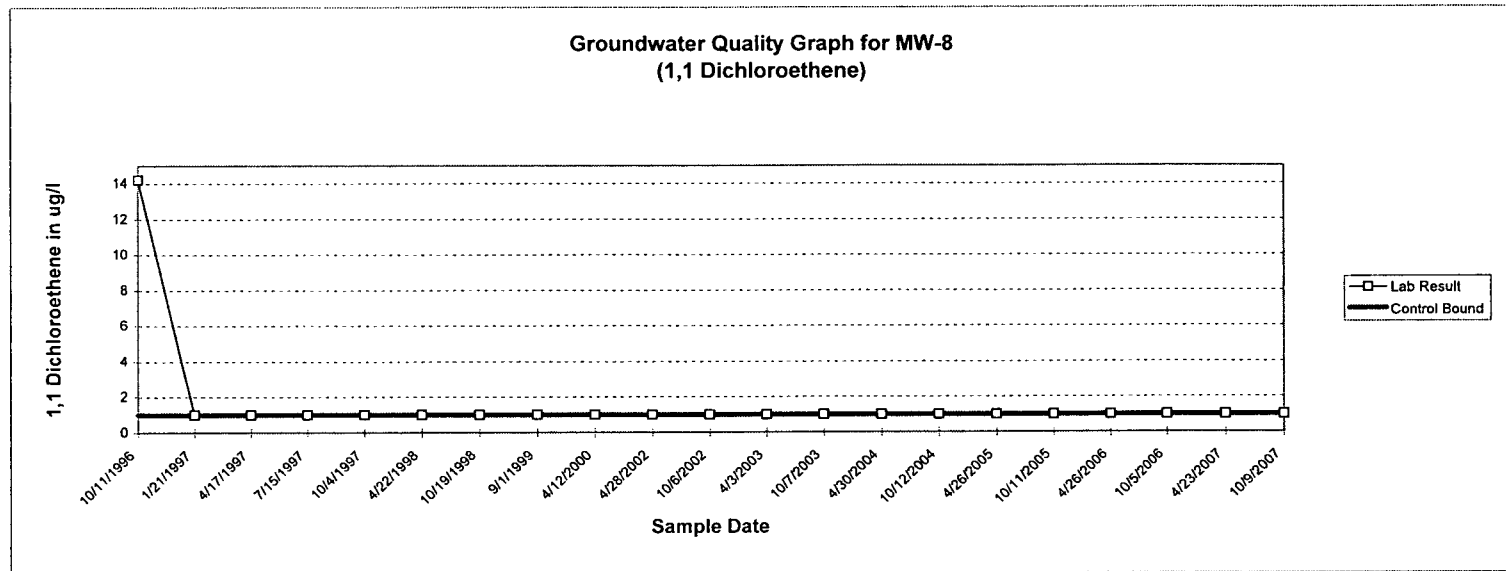
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
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ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

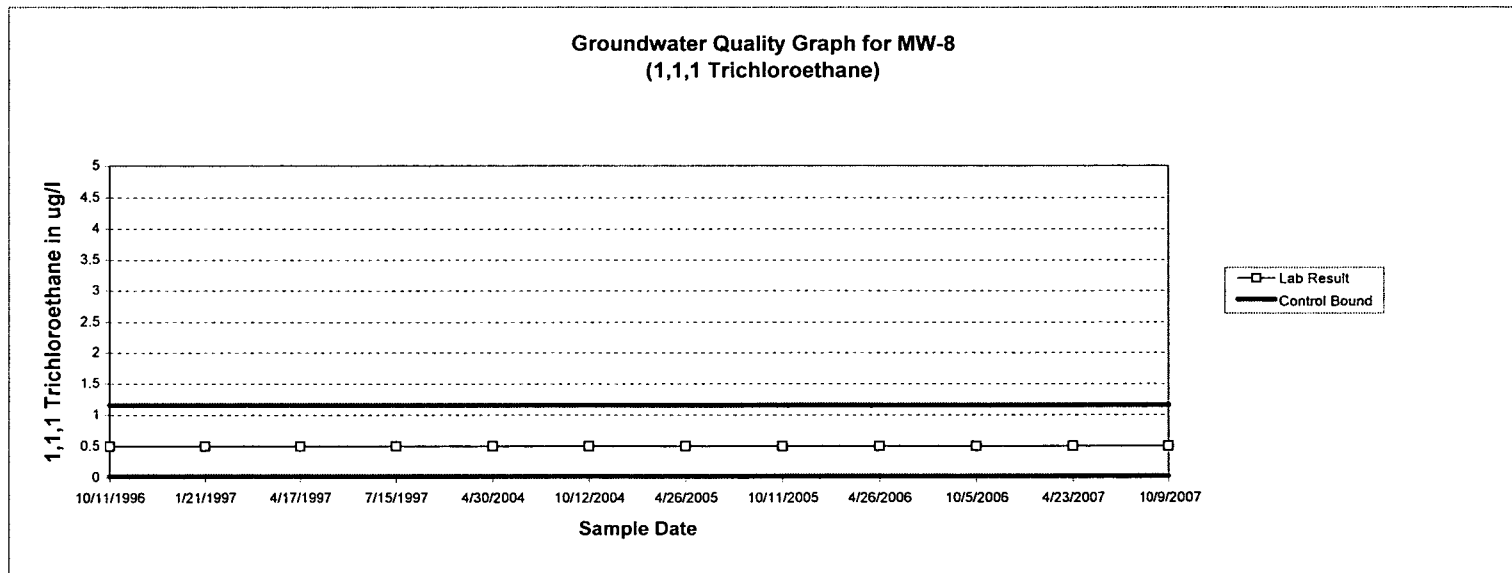


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-8  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



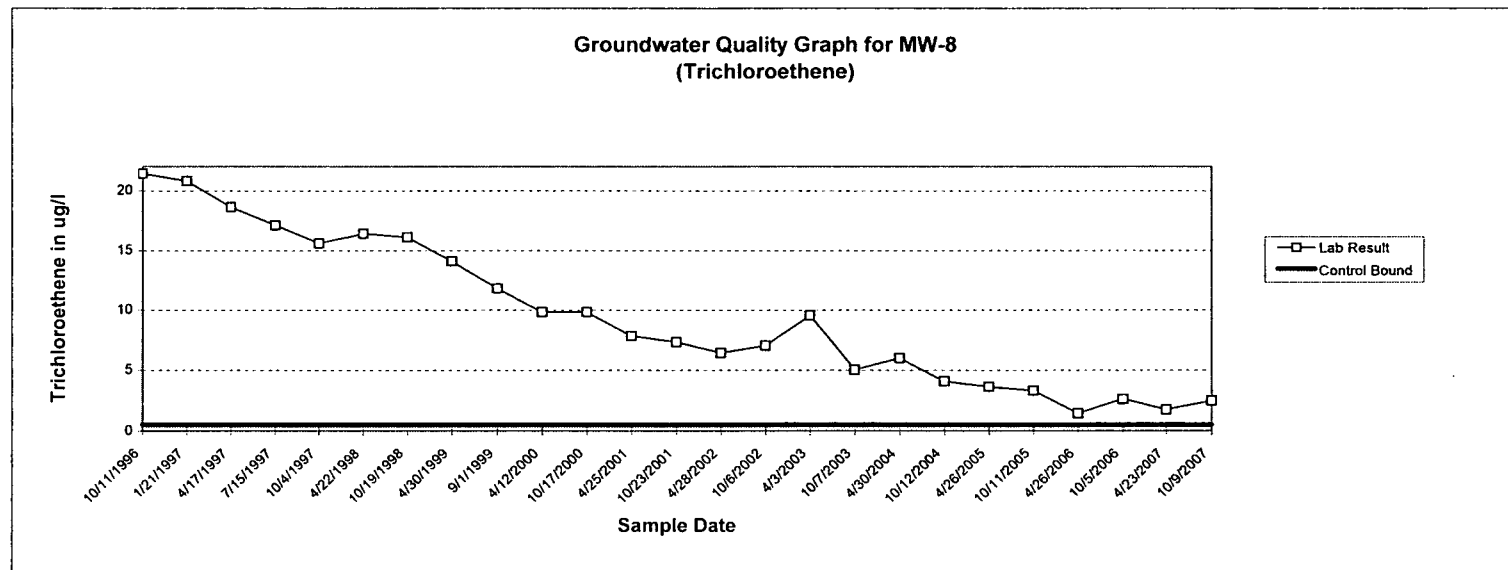
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



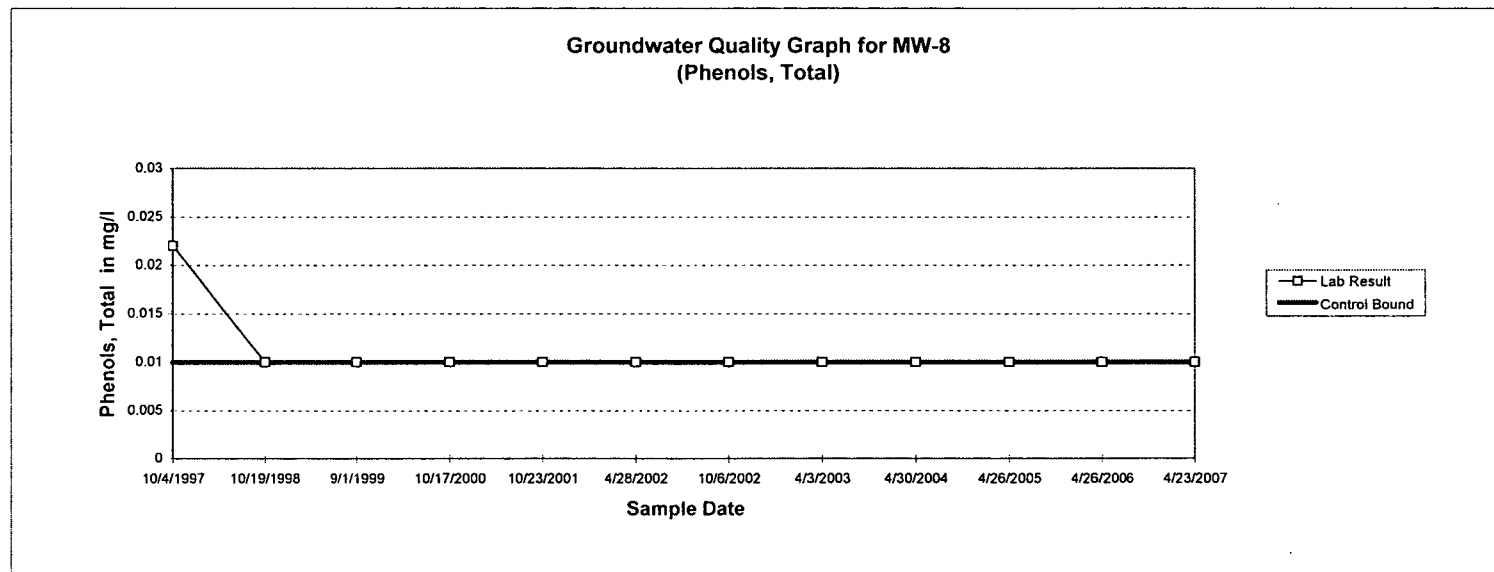
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).



ANALYSIS SHEET MW-8  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



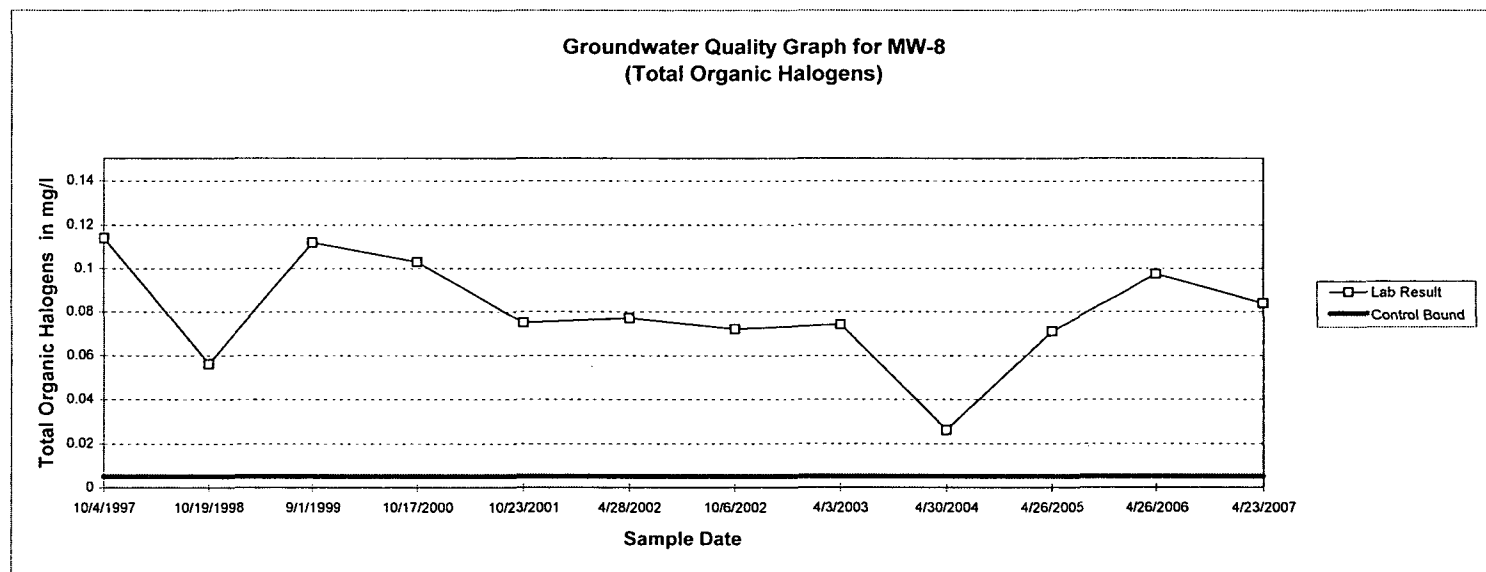
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
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ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



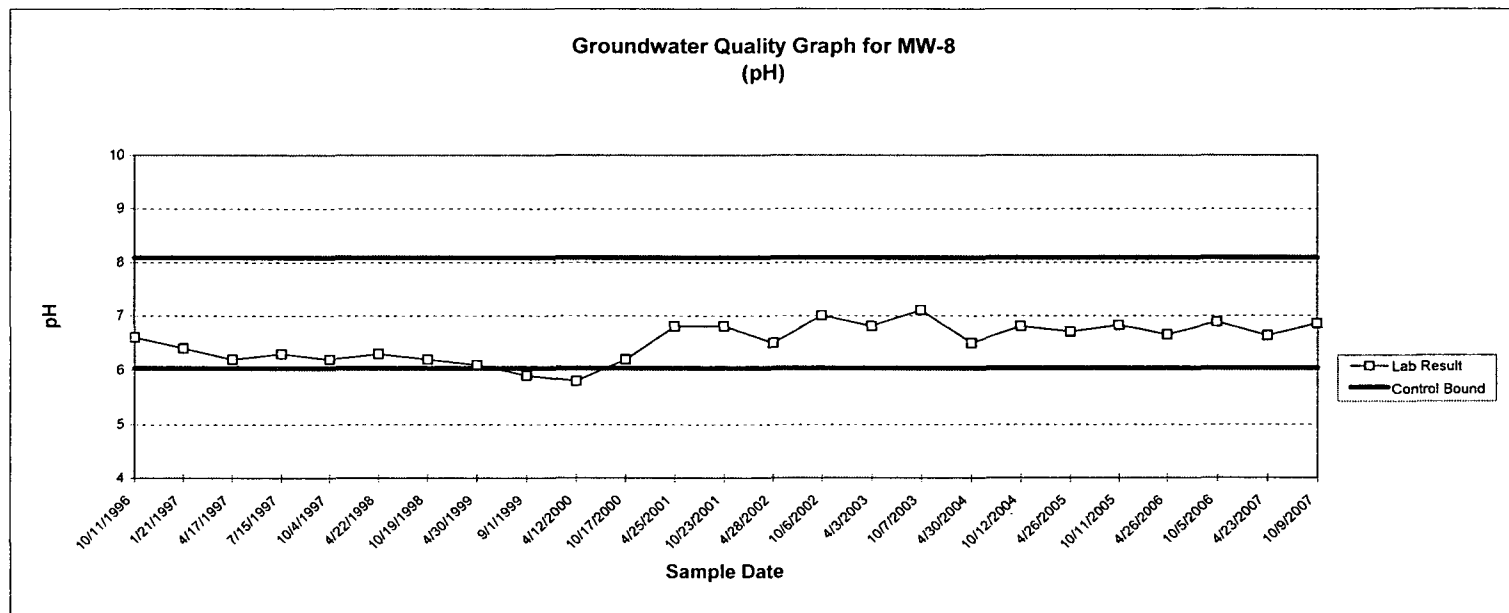
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).

ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



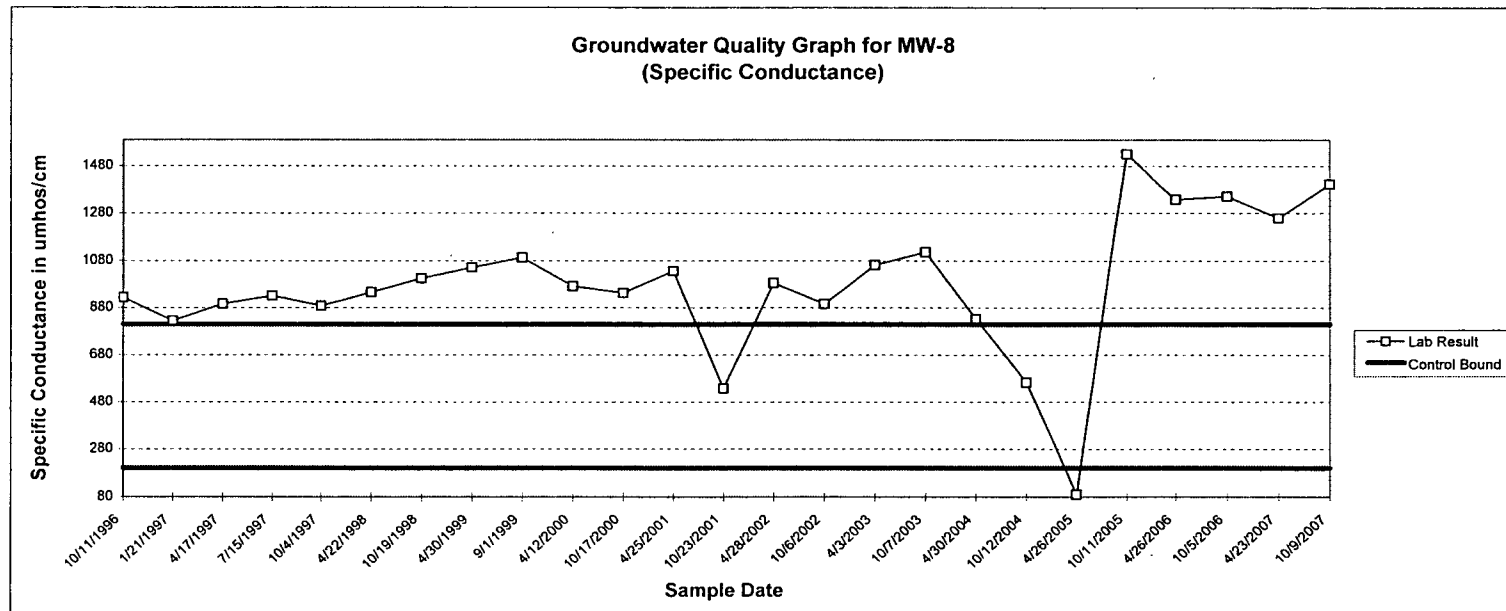
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-8

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-7

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. **MW-7 (Up-gradient)**

ANALYSIS PERFORMED BY: **TestAmerica Laboratories**

SAMPLED BY: **Plymouth County Landfill Personnel**

PARAMETER	Statistical Considerations				SAMPLE DATE										
	Upper Control Limit	Lower Control Limit	MW-7 Standard Deviation	MW-7 Mean	7/12/1996	10/10/1996	1/21/1997	4/17/1997	10/4/1997	4/22/1998	10/19/1998	4/30/1999	9/1/1999	4/12/2000	10/17/2000
	via MW-17	via MW-17													
<b>Laboratory Parameters</b>															
Chloride (mg/l)	4.710	0.707	1.956	5.922	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	6.9	6.6	6.7	5.9	6.4	5.5
Chemical Oxygen Demand (mg/l)	9.169	0.000	8.101	6.180	42.0	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>
Ammonia Nitrogen (mg/l)	0.100	0.100	0.033	0.110	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
Iron, dissolved (mg/l)	0.050	0.050	0.035	0.062	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	0.12	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>	0.13	<b>0.05</b>
Benzene (µg/l)	0.250	0.250	0.266	0.542	<b>0.5</b>	<b>0.5</b>	<b>0.25</b>	<b>0.25</b>	0.75	0.74	0.81	0.8	<b>0.25</b>	0.8	<b>0.25</b>
1,2-Dichloroethane (µg/l)	0.478	0.022	3.798	1.320	10.6	16.6	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
1,1-Dichloroethene (µg/l)	1.000	1.000	0.150	0.952	<b>0.5</b>	<b>0.5</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	-	<b>1.0</b>	<b>1.0</b>	-
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.000	0.500	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	-	-	-	-	-	-	-
Trichloroethene (µg/l)	0.500	0.500	3.016	8.847	4.7	5.1	6.6	12.2	9.8	10.9	8.2	12.5	8.2	8.4	6.4
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	-	-	-	<b>0.01</b>	-	<b>0.01</b>	-	<b>0.01</b>	-	<b>0.01</b>
Total Organic Halogens (mg/l)	0.005	0.005	0.020	0.079	-	-	-	-	0.095	-	0.051	-	0.104	-	0.067
<b>Field Parameters</b>															
pH	8.1	6.0	0.361	6.408	6.1	6.5	6.5	6	6.2	6.1	6.2	6.1	5.9	5.6	6
Specific Conductance (µs/cm)	809	198	267.226	1136.833	738	870	840	919	904	1001	1050	1094	1127	1041	1002

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

# ANALYSIS SHEET MW-7

## PLYMOUTH COUNTY LANDFILL GROUNDWATER SAMPLING AND ANALYSIS PROJECT NO. TERRACON 40905033

### SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO. MW-7 (Up-gradient)

ANALYSIS PERFORMED BY: TestAmerica Laboratories

SAMPLED BY: Plymouth County Landfill Personnel

PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-7 Standard Deviation	MW-7 Mean												
	via MW-17	via MW-17			4/25/2001	10/23/2001	4/28/2002	10/6/2002	4/3/2003	10/7/2003	4/30/2004	10/12/2004	4/26/2005	10/11/2005	4/26/2006	10/5/2006
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	1.956	5.922	5.9	7.5	7.5	6.2	6.1	8.2	8.8	7.9	5.7	5.3	5.9	7.34
Chemical Oxygen Demand (mg/l)	9.169	0.000	8.101	6.180	2.5	2.5	7.3	9.3	7.3	2.5	8.9	2.5	5.4	2.5	5.5	11.7
Ammonia Nitrogen (mg/l)	0.100	0.100	0.033	0.110	0.1	0.1	0.1	0.1	0.1	0.23	0.21	0.1	0.1	0.1	0.1	0.1
Iron, dissolved (mg/l)	0.050	0.050	0.035	0.062	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzene (µg/l)	0.250	0.250	0.266	0.542	0.6	1.0	0.5	0.25	0.25	0.56	0.6	0.66	0.25	0.25	0.25	0.54
1,2-Dichloroethane (µg/l)	0.478	0.022	3.798	1.320	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
1,1-Dichloroethene (µg/l)	1.000	1.000	0.150	0.952	-	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,1,1-Trichloroethane (µg/l)	1.152	0.019	0.000	0.500	-	-	-	-	-	-	0.5	0.5	0.5	0.5	0.5	0.5
Trichloroethene (µg/l)	0.500	0.500	3.016	8.847	8.4	10.7	12.0	13.4	10.4	10.7	11.0	7.4	3.6	2.94	5.97	7.26
Phenols, Total (mg/l)	0.010	0.010	0.000	0.010	-	0.01	0.01	0.01	0.01	-	0.01	-	0.01	-	0.01	-
Total Organic Halogens (mg/l)	0.005	0.005	0.020	0.079	-	0.083	0.086	0.093	0.073	-	0.085	-	0.044	-	0.0638	-
<b>Field Parameters</b>																
pH	8.1	6.0	0.4	6.4	6.7	6.7	6.3	6.5	6.7	7.1	-	6.5	6.4	6.7	6.71	6.9
Specific Conductance (µs/cm)	809	198	267	1137	1147	1102	784	1232	1127	910	-	1495	1765	1443	1283	1414

#### NOTE:

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

SAMPLE LOCATION NO.      **MW-7**      (Up-gradient)

ANALYSIS PERFORMED BY:      **TestAmerica Laboratories**

SAMPLED BY:      **Plymouth County Landfill Personnel**

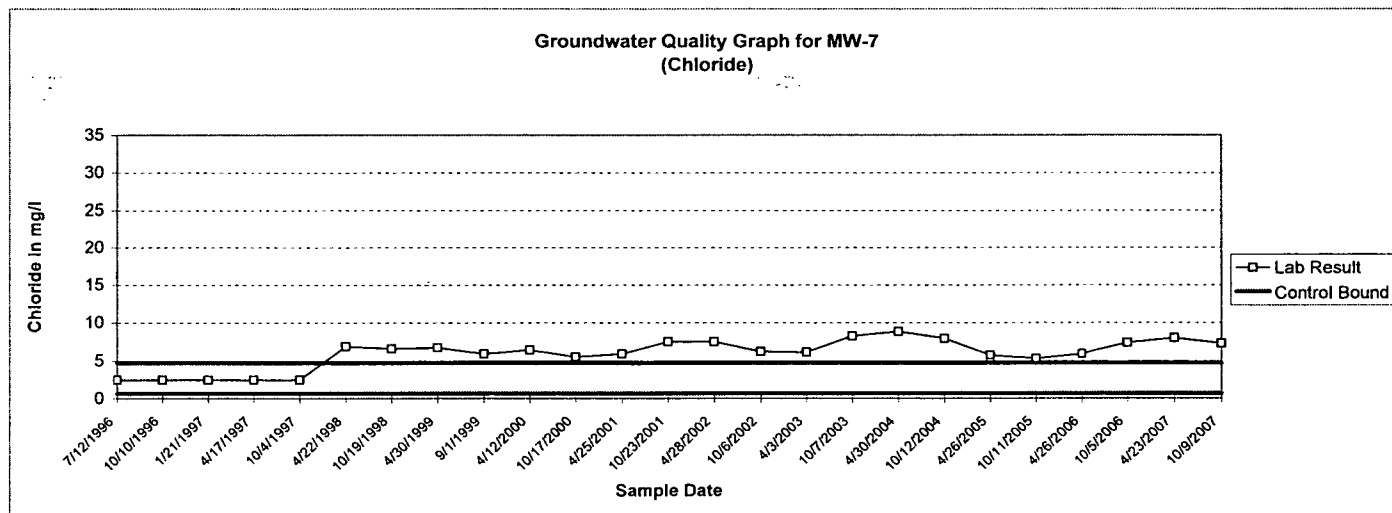
PARAMETER	Statistical Considerations				SAMPLE DATE											
	Upper Control Limit	Lower Control Limit	MW-7 Standard Deviation	MW-7 Mean	4/23/2007	10/9/2007										
	via MW-17	via MW-17														
<b>Laboratory Parameters</b>																
Chloride (mg/l)	4.710	0.707	0.000	0.000	7.96	7.25										
Chemical Oxygen Demand (mg/l)	9.169	0.000	1.956	5.922	12.2	7.40										
Ammonia Nitrogen (mg/l)	0.100	0.100	8.101	6.180	<b>0.1</b>	<b>0.1</b>										
Iron, dissolved (mg/l)	0.050	0.050	0.033	0.110	<b>0.05</b>	<b>0.05</b>										
Benzene (µg/l)	0.250	0.250	0.035	0.062	0.83	1.11										
1,2-Dichloroethane (µg/l)	0.478	0.022	0.266	0.542	<b>0.5</b>	<b>0.5</b>										
1,1-Dichloroethane (µg/l)	1.000	1.000	3.798	1.320	<b>1.0</b>	<b>1.0</b>										
1,1,1-Trichloroethane (ug/l)	1.152	0.019	0.150	0.952	<b>0.5</b>	<b>0.5</b>										
Trichloroethene (µg/l)	0.500	0.500	0.000	0.500	11.0	13.4										
Phenols, Total (mg/l)	0.010	0.010	3.016	8.847	<b>0.01</b>	-										
Total Organic Halogens (mg/l)	0.005	0.005	0.000	0.010	0.107	-										
<b>Field Parameters</b>																
pH	8.1	6.0	0.0	0.0	6.8	6.6										
Specific Conductance (µs/cm)	809	198	0	6	1448	1548										

**NOTE:**

- 1) Statistical analysis included VOC chemicals that exhibited detectable concentrations during background monitoring.
- 2) Results shown in bold represent one-half of the laboratory quantitative limit for parameters not detected.
- 3) One-half of the quantitative limit was used for non-detected parameters to compute their respective control limits (mean +/- two times the standard deviation for the chemicals observed at MW-17).
- 4) One-half of the quantitative limit was plotted for non-detectable parameters.
- 5) A lower control limit of zero (0) was used for those parameters in which a negative lower control limit was calculated.
- 6) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



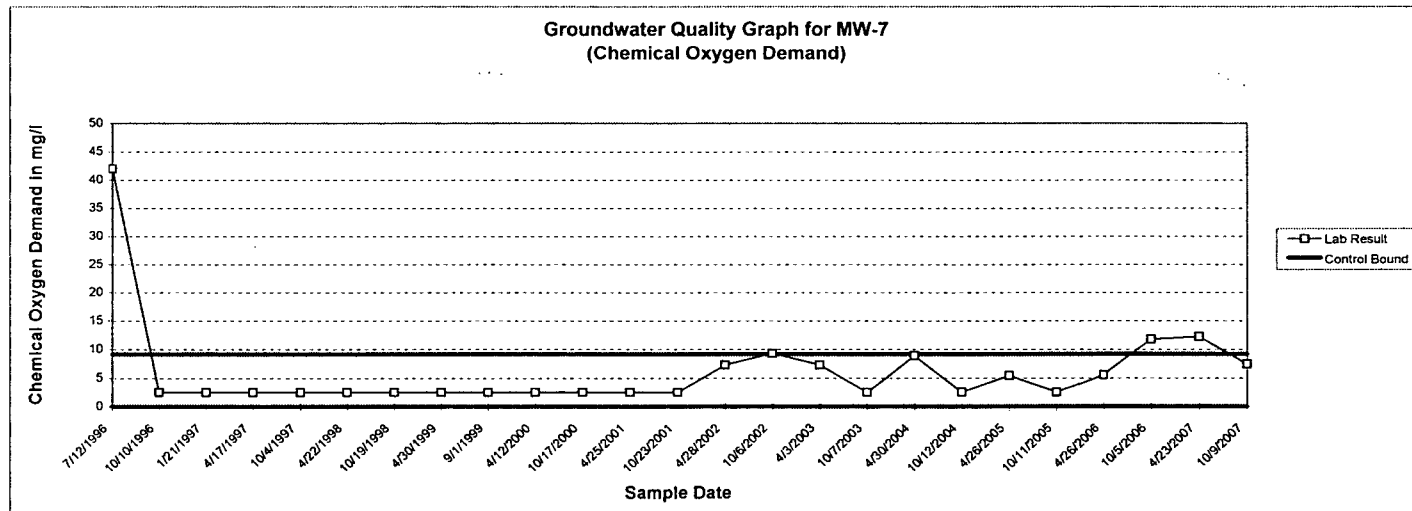
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



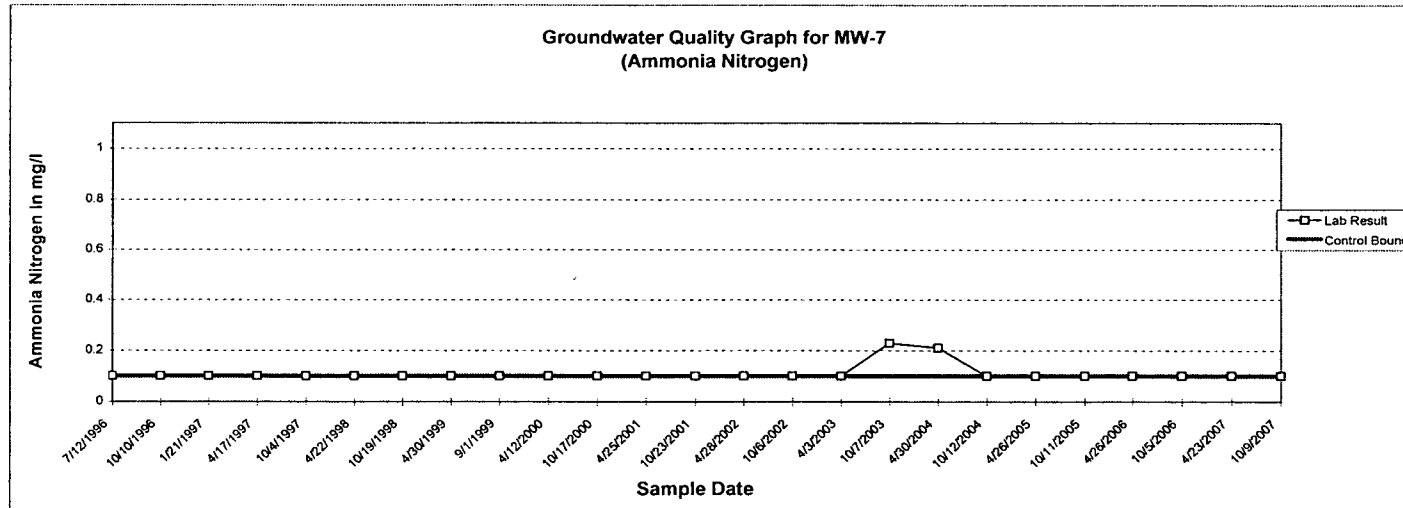
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-7

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



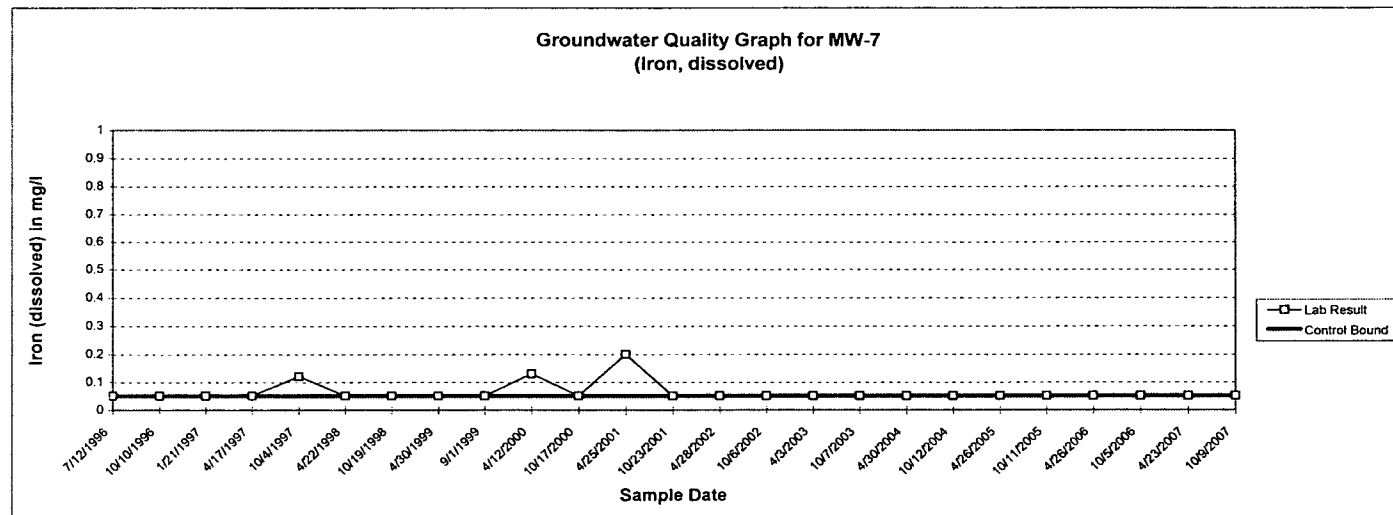
NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
- 3) One-half of the quantitative limit was plotted for non-detectable parameters.

ANALYSIS SHEET MW-7

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

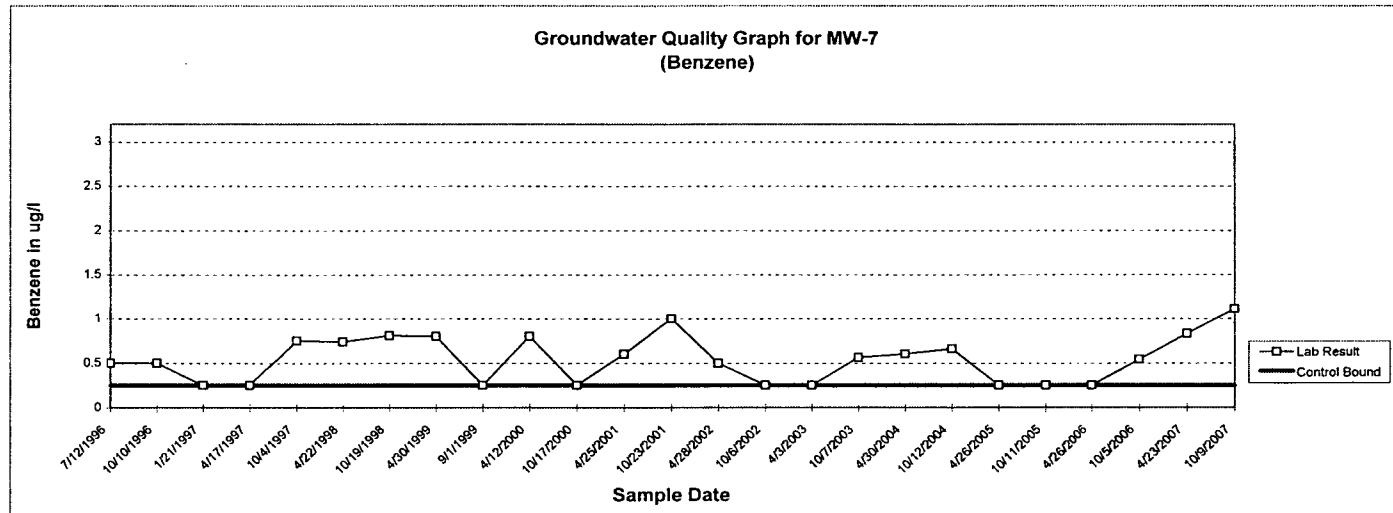


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
- 2) The same non-detectable concentration results for MW-17 resulted in a single control bound (i.e. there was no deviation from the mean of the data).
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ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

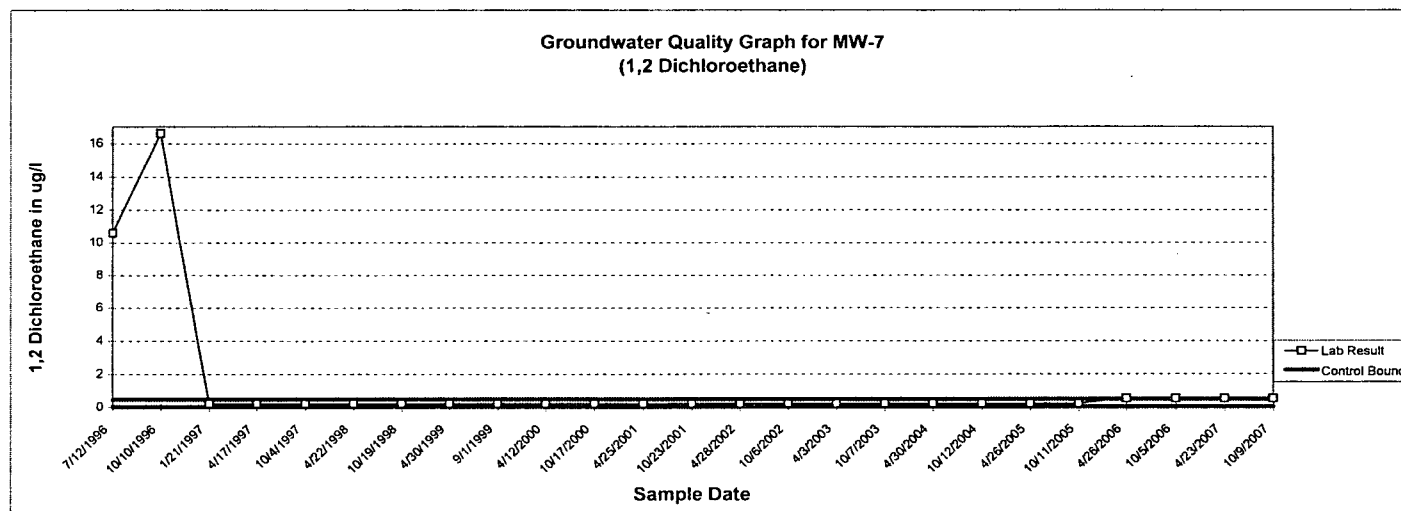


NOTE:

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ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

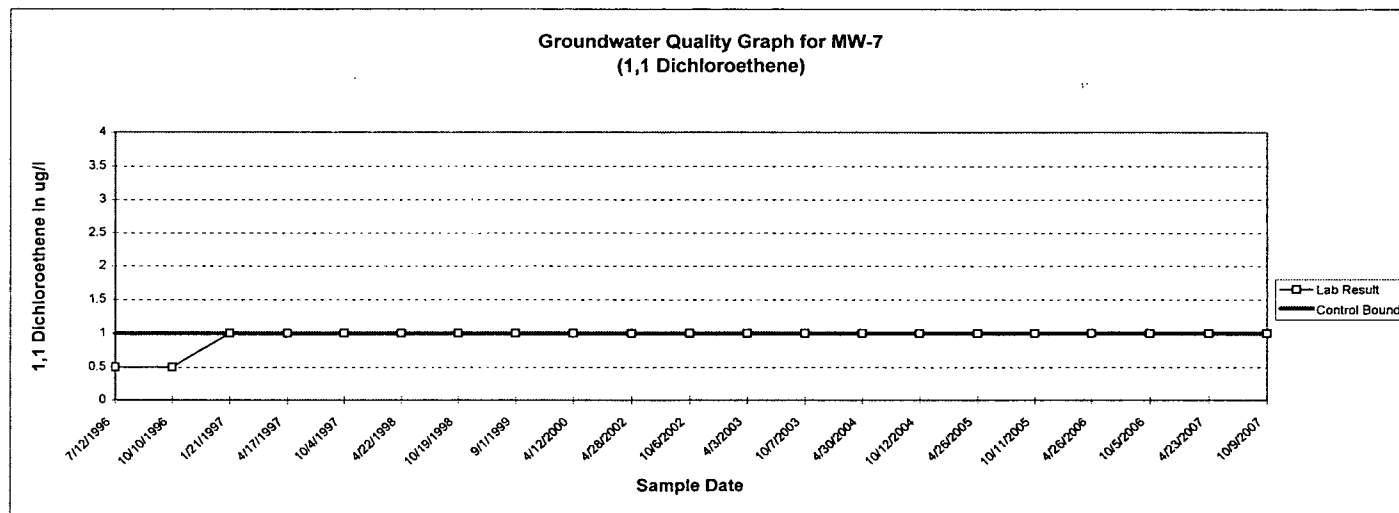


NOTE:

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ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



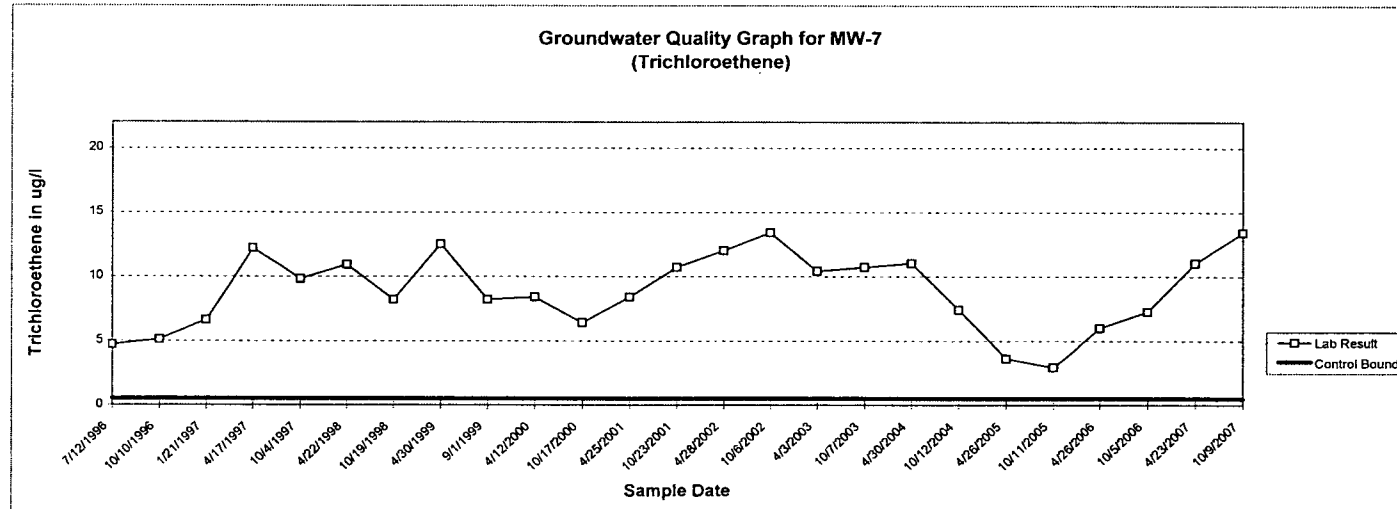
NOTE:

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# ANALYSIS SHEET MW-7

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

## SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



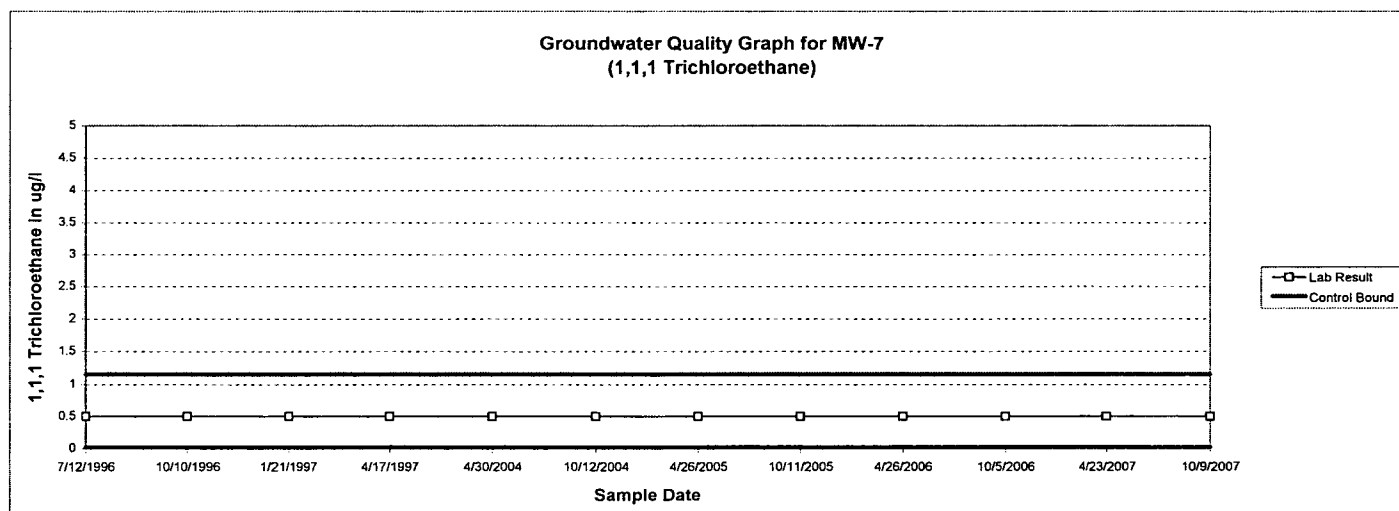
### NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
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ANALYSIS SHEET MW-7

PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



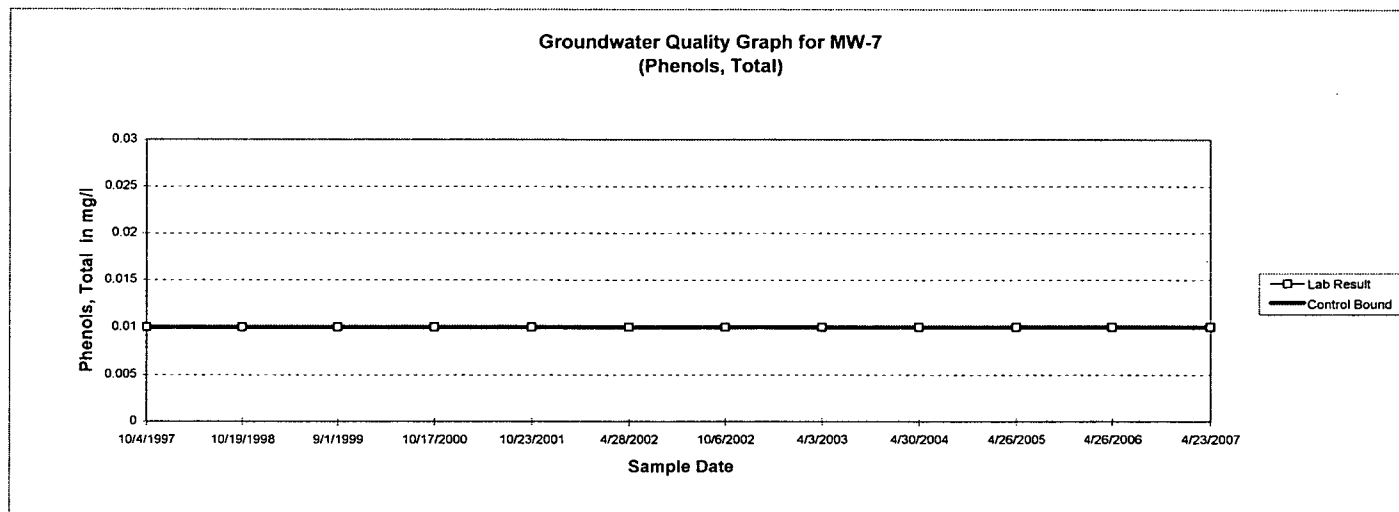
NOTE:

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- 2) One-half of the quantitative limit was plotted for non-detectable parameters.



ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

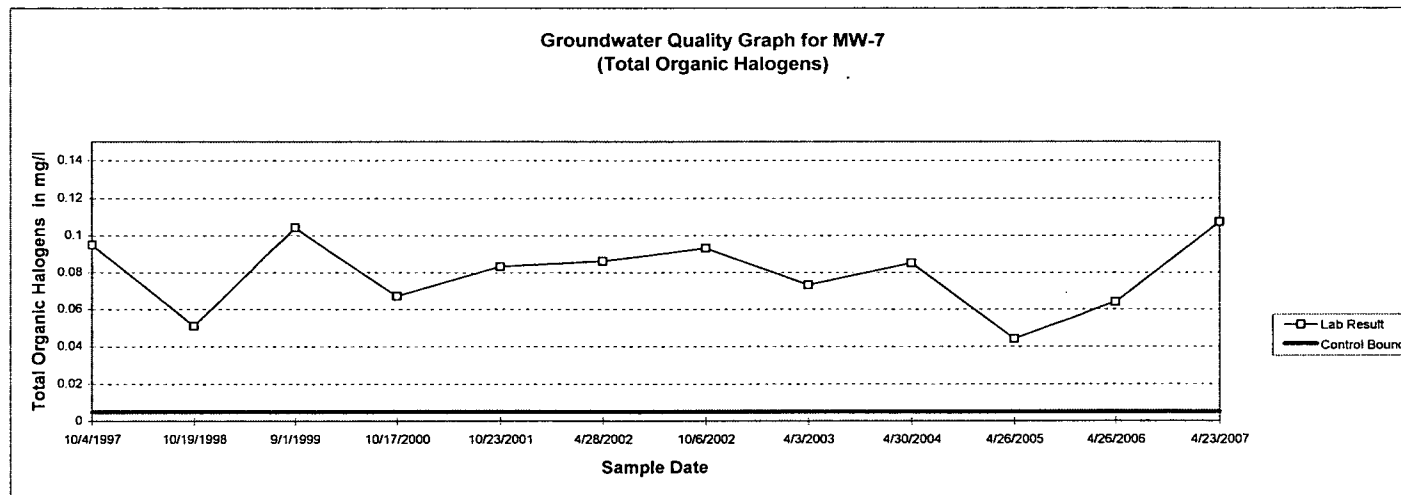


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.
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ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
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SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

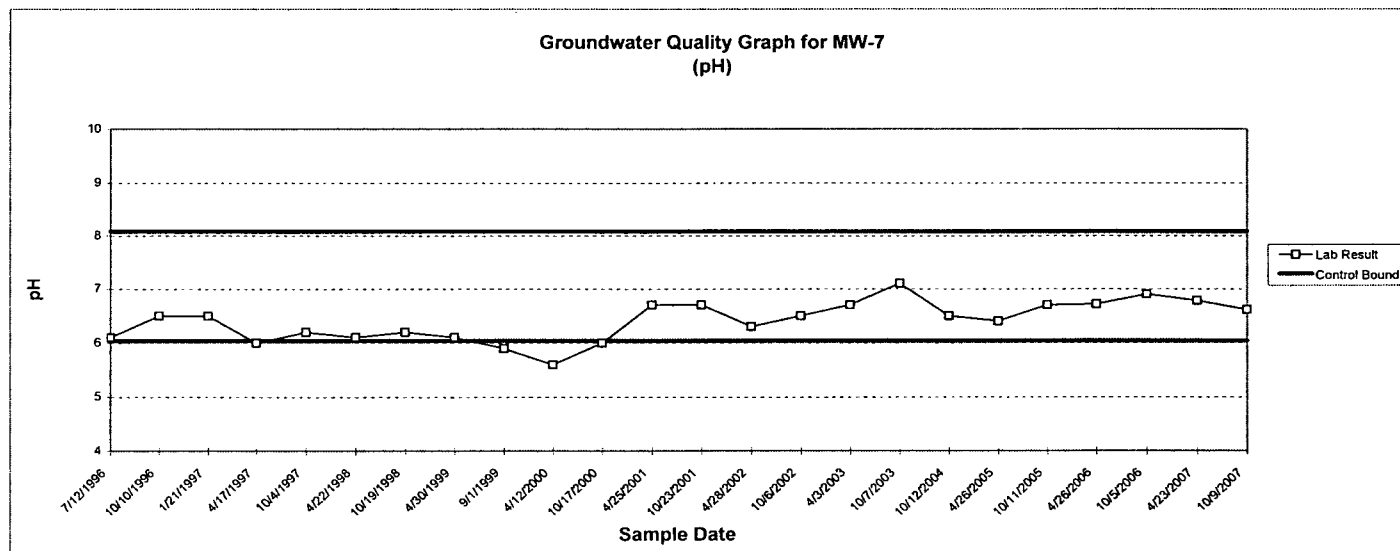


NOTE:

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ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET

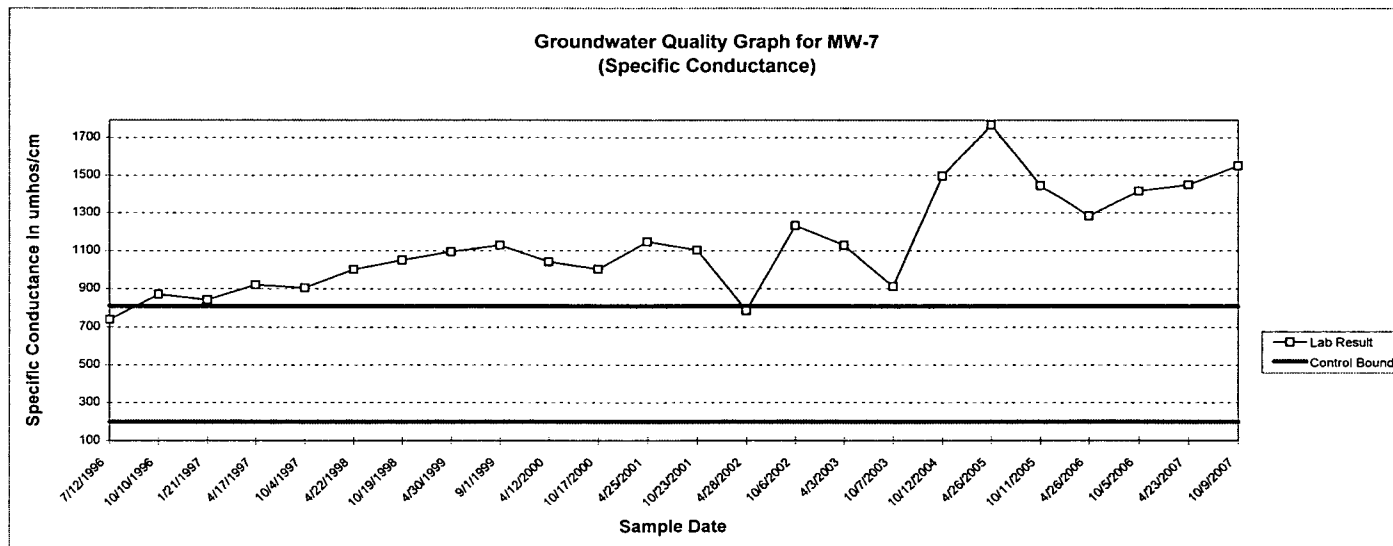


NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

ANALYSIS SHEET MW-7  
PLYMOUTH COUNTY LANDFILL  
GROUNDWATER SAMPLING AND ANALYSIS  
PROJECT NO. TERRACON 40905033

SEMI-ANNUAL, ANNUAL, AND SELECT VOC PARAMETERS STATISTICAL ANALYSIS SHEET



NOTE:

- 1) Results from Monitoring Well MW-17 (up-gradient well) were used to compute control limits.

**TABLE 1**  
**Plymouth County Landfill**  
**Terracon Project No. 40905033**

**Summary of Groundwater Elevation Measurements**

Measurement Dates			December 1, 2006		January 4, 2007		February 20, 2007		March 23, 2007	
Location	TOC Elevation (feet)	Screened Interval Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
MW-7	1325.79	1303.4-1293.4	27.03	1298.76	27.45	1298.34	27.77	1298.02	24.17	1301.62
MW-8	1314.12	1296.7-1286.7	22.71	1291.41	22.90	1291.22	23.00	1291.12	18.87	1295.25
MW-9	1291.83	1277.1-1267.1	24.50	1267.33	24.10	1267.73	23.94	1267.89	20.25	1271.58
MW-10	1264.66	1242.0-1232.0	29.91	1234.75	29.75	1234.91	29.83	1234.83	27.95	1236.71
MW-11	1285.62	1258.0-1248.0	30.57	1255.05	30.63	1254.99	30.81	1254.81	30.10	1255.52
MW-12	1333.20	1290.3-1280.3	45.29	1287.91	45.32	1287.88	45.60	1287.60	45.30	1287.90
MW-13	1266.67	1244.8-1229.8	27.45	1239.22	27.32	1239.35	27.42	1239.25	25.23	1241.44
MW-14	1302.41	1267.4-1252.4	44.04	1258.37	44.10	1258.31	44.67	1257.74	44.11	1258.30
MW-15	1322.16	1294.4-1279.4	33.95	1288.21	33.87	1288.29	34.34	1287.82	34.00	1288.16
MW-16	1330.02	1309.0-1294.0	31.18	1298.84	31.47	1298.55	31.64	1298.38	27.69	1302.33
MW-17	1319.12	1301.1-1286.1	20.10	1299.02	20.43	1298.69	20.22	1298.90	14.83	<b>1304.29</b>
MW-18	NM	NM	51.75		51.78		51.82		51.83	

**NOTES:**

TOC = top of casing elevation (feet).

NM = not measured.

Bold numbers represent water levels  
outside screened intervals.

Elevation survey data has not  
been generated for well MW-18.

**TABLE 1**  
**Plymouth County Landfill**  
**Terracon Project No. 40905033**

**Summary of Groundwater Elevation Measurements**

Measurement Dates			April 23, 2007		May 21, 2007		June 27, 2007		July 25, 2007	
Location	TOC Elevation (feet)	Screened Interval Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
MW-7	1325.79	1303.4-1293.4	23.72	1302.07	22.55	1303.24	22.73	1303.06	23.76	1302.03
MW-8	1314.12	1296.7-1286.7	17.57	1296.55	16.65	1297.47	18.45	1295.67	20.04	1294.08
MW-9	1291.83	1277.1-1267.1	17.84	1273.99	16.91	1274.92	20.68	1271.15	22.38	1269.45
MW-10	1264.66	1242.0-1232.0	27.82	1236.84	26.93	1237.73	27.42	1237.24	28.40	1236.26
MW-11	1285.62	1258.0-1248.0	28.75	1256.87	27.00	1258.62	27.22	1258.40	27.65	1257.97
MW-12	1333.20	1290.3-1280.3	45.00	1288.20	44.80	1288.40	44.65	1288.55	44.69	1288.51
MW-13	1266.67	1244.8-1229.8	24.35	1242.32	23.28	1243.39	24.80	1241.87	26.22	1240.45
MW-14	1302.41	1267.4-1252.4	42.27	1260.14	40.29	1262.12	40.74	1261.67	40.48	1261.93
MW-15	1322.16	1294.4-1279.4	33.70	1288.46	33.61	1288.55	33.62	1288.54	33.73	1288.43
MW-16	1330.02	1309.0-1294.0	27.30	1302.72	25.47	1304.55	25.84	1304.18	27.55	1302.47
MW-17	1319.12	1301.1-1286.1	15.47	<b>1303.65</b>	15.25	<b>1303.87</b>	16.72	<b>1302.40</b>	17.92	<b>1301.20</b>
MW-18	NM	NM	NM		NM		NM		NM	

**NOTES:**

TOC = top of casing elevation (feet).

NM = not measured.

Bold numbers represent water levels  
outside screened intervals.

Elevation survey data has not  
been generated for well MW-18.

**TABLE 1**  
**Plymouth County Landfill**  
**Terracon Project No. 40905033**

**Summary of Groundwater Elevation Measurements**

Measurement Dates			August 24, 2007		September 26, 2007		October 9, 2007		November 2007	
Location	TOC Elevation (feet)	Screened Interval Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
MW-7	1325.79	1303.4-1293.4	23.78	1302.01	24.65	1301.14	24.41	1301.38		1325.79
MW-8	1314.12	1296.7-1286.7	20.84	1293.28	21.02	1293.10	19.27	1294.85		1314.12
MW-9	1291.83	1277.1-1267.1	22.27	1269.56	22.00	1269.83	19.14	1272.69		1291.83
MW-10	1264.66	1242.0-1232.0	28.73	1235.93	29.12	1235.54	28.58	1236.08		1264.66
MW-11	1285.62	1258.0-1248.0	28.29	1257.33	28.85	1256.77	28.77	1256.85		1285.62
MW-12	1333.20	1290.3-1280.3	44.79	1288.41	44.90	1288.30	44.90	1288.30		1333.20
MW-13	1266.67	1244.8-1229.8	26.00	1240.67	25.80	1240.87	24.20	1242.47		1266.67
MW-14	1302.41	1267.4-1252.4	41.01	1261.40	41.82	1260.59	41.73	1260.68		1302.41
MW-15	1322.16	1294.4-1279.4	33.87	1288.29	33.83	1288.33	33.95	1288.21		1322.16
MW-16	1330.02	1309.0-1294.0	27.87	1302.15	28.83	1301.19	28.25	1301.77		1330.02
MW-17	1319.12	1301.1-1286.1	18.35	1300.77	18.02	1301.10	17.42	<b>1301.70</b>		1319.12
MW-18	NM	NM	NM		NM		NM			

**NOTES:**

TOC = top of casing elevation (feet).

NM = not measured.

Bold numbers represent water levels  
outside screened intervals.

Elevation survey data has not  
been generated for well MW-18.

**TABLE 2**

Plymouth County Landfill  
Terracon Project 40905033

**Summary of Leachate Measurements**

Location	Measurement Dates											
	Dec 2007	Jan 4 2007	Feb 20 2007	Mar 23 2007	Apr 23 2007	May 21 2007	Jun 27 2007	Jul 25 2007	Aug 24 2007	Sep 26 2007	Oct 9 2007	Nov 2007
LW-1	10	10	10	10	13.3	14.2	17	13.5	14.3	14.5	12.9	NM
LW-2	14	15	12	14	12.1	13.9	15.5	17.2	15.5	17.8	17.2	NM
LW-3	68	96	74.1	97.5	101.5	72.9	68	42	77	80.1	81	NM
LW-4	0	0	0	0	0	0	NM	15	21.5	14.5	18	NM

**NOTES:**

All Measurements in inches

Leachate levels measured by landfill personnel.

NM = not measured.

Blank fields indicate no data.

Values represent leachate thickness at bottom of each leachate well.



**TABLE 3**  
**Plymouth County Landfill**  
**Terracon Project 40905033**

**Summary of Hydraulic Conductivities**

DATE	MONITORING WELLS											
	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18
March 1991	2.00E-04	9.70E-06	1.40E-04	8.90E-06	6.10E-04	5.30E-05						
May 1998	1.78E-04	3.33E-05	3.81E-05	4.50E-03	3.89E-04	3.30E-05	1.43E-04	1.31E-04	5.31E-05	9.23E-06	1.29E-05	
November 2003	1.34E-04	1.09E-05			3.31E-04	1.83E-04	2.96E-04	1.94E-04	5.26E-05	2.88E-05	9.63E-06	

Hydraulic conductivity values given in units of centimeters per second (cm/sec).

Blank cells indicate no testing was performed.

Wells MW-13, MW-14, MW-15, MW-16 and MW-17 did not exist at the time of hydraulic conductivity testing in 1991.

Wells MW-9 and MW-10 had insufficient water for hydraulic conductivity testing in 2003.